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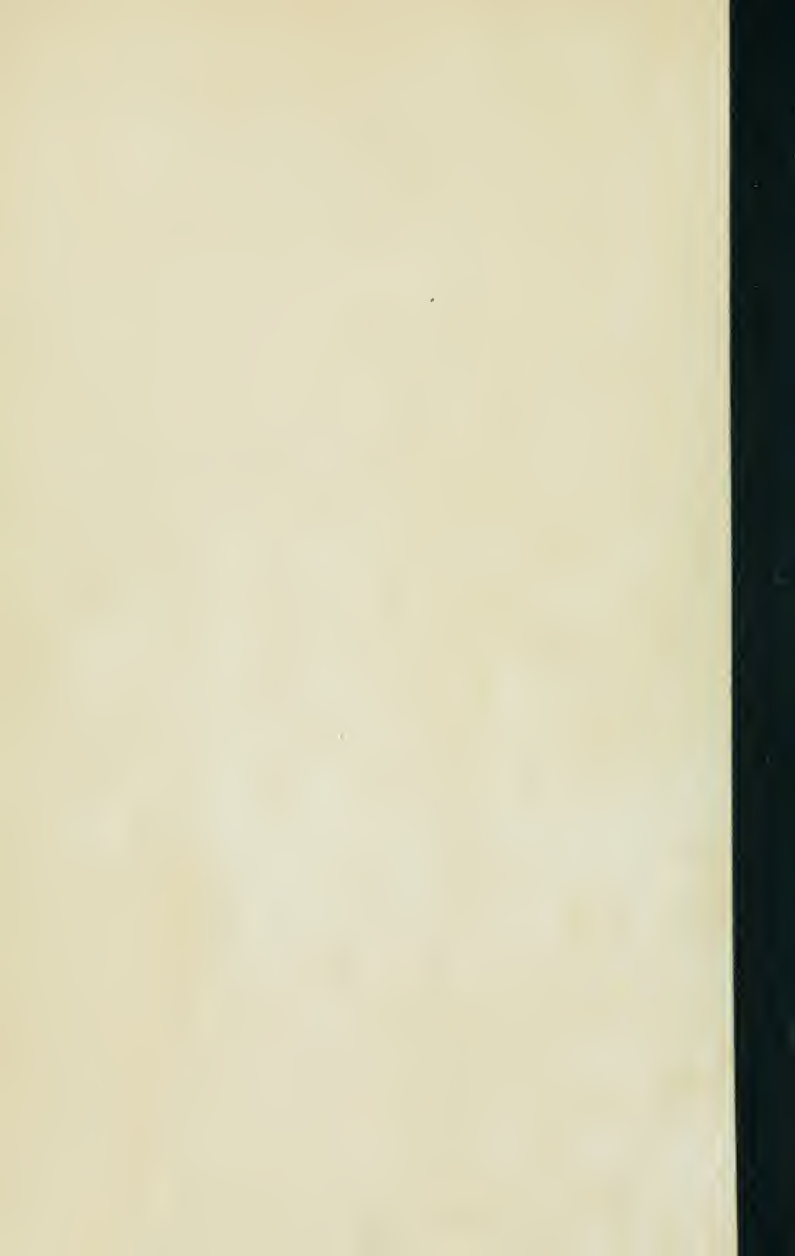
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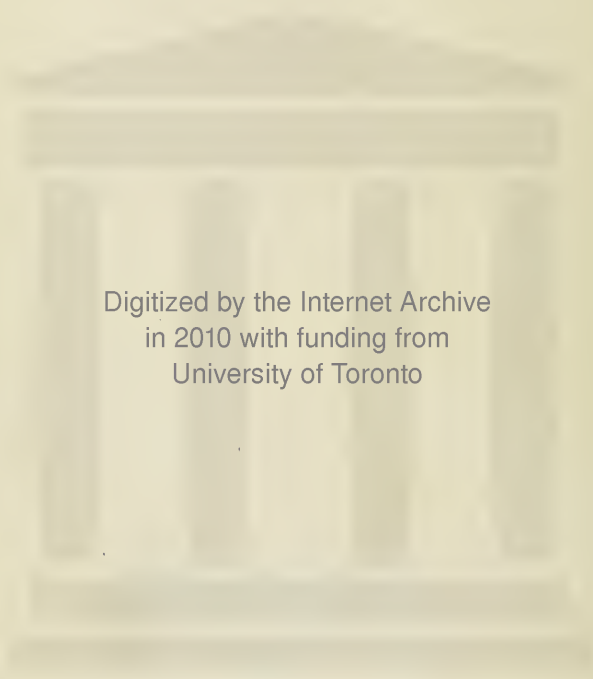
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ALPHABETICAL INDEX

FOR

VOLUME VI

MINING CONGRESS JOURNAL

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THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

SHIPPERS' CONFERENCE

The recent conference of shippers, at Chicago, December 30, was a meeting of special interest and importance. The mining industry furnishes 58 per cent of the total tonnage handled by the railroads of the United States. Transportation rates are of greater importance to mining than to any other branch of industry.

In the year 1914 the appeal of the railroads to the Interstate Commerce Commission for approval of a 5 per cent increase upon the then existing freight rate was, after a long contest and many re-hearings, successful. At that time it was contended by the Interstate Commerce Commission that the railroads were not entitled to this 5 per cent increase.

The actual cost of transportation service depends largely upon full capacity business. In 1917, with business in excess of carrying capacity, a demand was made for a further increase of 15 per cent, which was granted. Again in 1918 a still further advance of 25 per cent was made upon the rate already twice increased; and now it is in the air that an additional increase in freight rates will be asked and an effort has been made to bring about this increase before the roads are returned to their private owners on March 1.

In the meantime railroad employees' organizations are demanding a further increase in wages. The failure to keep equipment up to standard during government operation apparently justifies an increase in earning power. Every shipper, and all business men, understand

the vast importance of efficient transportation service, both passenger and freight, and the necessity of permitting the roads to earn sufficient to provide the increasing equipment required to handle the country's increasing business.

Upon the other hand, if the railroads in 1912 and 1913 only needed an increase of 5 per cent to make profitable their enterprise, it would seem that something is radically wrong when an increase of approximately 51 per cent over the 1913 rate is not sufficient to meet these requirements. Heretofore these questions have been decided by the roads which received the freight and the employees who absorbed the greater part of the returns. Shippers in the past have worked spasmodically through organizations, more or less local—each representing in a general way a particular line of traffic. The National Shippers' Congress proposes to ask the support of all shipping interests and will undertake to handle those big, broad, fundamental questions, without reference to the particular interest of any section or business and to protect the interest of the great third party—the consumer. The Executive Committee of this organization will, for the time, occupy offices with the American Mining Congress. We call special attention to the memorial prepared at the first meeting of this organization, which will be found upon another page of this issue.

NATIONALIZATION FAILS

The Mining Journal, of London, develops some very interesting facts re-

garding England's peculiar experiment with the socialistic plan of government control of coal mines. It is shown that the intervention of the British government at the behest of labor radicals forced revolutionary schemes upon the coal producers of the country. There has been an absolute stoppage of many mines which might otherwise have been successful producers since the signing of the armistice. The net loss in coal production thus far in England has aggregated fully seven years of normal production, including, of course, the time lost during the world war. It is predicted that ten years hence the restricted output will still be felt throughout all Great Britain. The Journal discusses without gloves the peculiar failures of the Coal Control Committee, and shows that men selected for this great work, although representative citizens and business men, are unable to cope with the coal situation of England under the new order of things; and that inefficiency has already so thoroughly developed that even the Laborites are scarcely better pleased than are the operators. Mr. Brace, the representative of the Laborites in national matters, has published claims that the inexplicable situations which have arisen indicate that there exists a scheme for discrediting nationalization of coal mines in England; but The Mining Journal disclaims the truth of such charges and says the situation is only what could be expected under government control and bureaucratic handling of commercial problems. Slowly but very certainly the breach between the coal operators of England and the Government Control Committee is widening and even in Wales the Laborites have begun a movement in open opposition to final nationalization, and Mr. Brace has said in Parliament that if nationalization meant the continuation of existing conditions, he himself would oppose nationalization to the end.

Peculiarly enough the government leaders have already taken advantage of the political organization available to them for self perpetuation, and The Mining Journal minces no words in stating

that from the best obtainable opinions, even the nation will not stand for eternal coal control, and that "the government is riding for a fall."

GOMPERS OBJECTS

The whole nation is seeking industrial peace. No patriotic American desires a continuation of the present-day conditions. Ninety-eight per cent of the citizenship is willing to see this desired peace brought about upon a basis which will insure an honest day's wage for an honest day's work without regard to organized or unorganized labor's demands for recognition. Most people are weary of haggling over the technical claims of leaders who make absolute public recognition of labor unions the paramount issue. Most employers and the greater number of workers believe that the large majority of employers as well as workers are honest and can deal upon an honest basis—either upon a written or implied contract.

Employers everywhere have recognized that the peculiar conditions created by the war required an increased pay roll and improved working conditions. In most cases these advances have already reached the limit which industry can bear. Readjustment of conditions and hours and cooperative schemes of every sort are already going into effect where individual treatment of the problems is possible. Where basic industries such as coal, steel, transportation and agriculture are concerned—the problems are more complex, less local, and general conferences are more necessary.

Union labor—so called—has made the blunder of going into conferences with employers with a demand in one hand and a strike in the other. They have created for themselves and their employers an atmosphere of antagonism—have made friendly consideration impossible. Each such conference has at once assumed the proportions of an "Armistice Convention," a sort of armed camp with Suspicion the controlling factor in its decisions and agreements.

Besides—organized labor has had a great deal to say about Capital's failure to consider the "human element" in Labor.

In the "Conferences" and demands upon employers, Labor has acted upon the theory that the "human element" has existed only in the ranks of workers. Therein has Labor made its fatal error—for most employers are very human—though they may be influenced by the necessity of making the business successful for the benefit of both employer and employe.

All of these facts are known to every thinking worker, and American wage earners number in their ranks a large percentage of educated, thinking men. And that is the greatest reason why the objections publicly made by Samuel Gompers and Frank Morrison, of the Federation, to the proposition of the President's Industrial Commission will fall flat.

The 95 per cent is trying to grope its way out of Chaos. The 5 per cent, through its mouthpiece, announces that because the President's Commission fails to recognize trades-unionism as the one hope of Industrial Peace, the program is not acceptable to the Federation. The Federation will not "play the game."

Perhaps if Mr. Gompers will read from his scrap-book for 1919, he will understand why a public pronouncement by Mr. Gompers doesn't carry as much weight as it did a year ago. He, as labor's ambassador, has protested so many kinds of things and so often announced that Labor would refuse to obey laws, if passed, that his position as an oracle has been somewhat weakened.

The President's Commission may not have developed a perfect plan, but it does give the workers credit for being intelligent enough to select their own representatives to the proposed Regional Boards, without regard to membership in the American Federation of Labor.

Mr. Gompers "broke-up" the first Industrial Conference and secured some first-page copy in the newspapers. It is to be hoped that the President's Industrial Commissioners will consider the na-

tional welfare as paramount to the welfare of the Federation.

IF THIS BE TREASON—

At the first threatened signs of the coal strike, the denunciations of it were most bitter. When it became a reality, all those in authority, from the President down, said the strike was a violation of all the established agreements between the coal miners and the operators. Judge Anderson, in issuing his order, directing leaders of the strike to call it off, spoke in no uncertain terms, and when the strike was continued covertly in defiance of this order, those in authority said, "This is treason."

An earnest, thoughtful, experienced, intelligent and conscientious man was called back to the task of fuel administration. When he arrived at a simple, clean, fundamental, sound solution for the coal strike, which he intended to be permanent, his proposed settlement did not meet with the approval of the miners, and therefore not of the politicians. The present settlement, based obviously on the supposed desire for political advantage, gives to the miners, through a weak-kneed and valcilitating policy, all the temporary advantages hoped for and a promise of further permanent advantage. It is apparent that both the politicians and the miners have paraphrased the immortal sentiment of Patrick Henry and have said, "If this be treason, let us make the most of it."

DEMAND EFFICIENCY

San Antonio, Texas, has begun a movement looking to the establishment of pre-war efficiency among its workers. There has been organized The Open Shop Association of San Antonio, including all employers of labor, such as contractors, manufacturers, merchants, hotel and restaurant proprietors, etc. San Antonio employers have found by very careful checking up of the work accomplished by all classes of employes, efficiency and production reduced almost to the point of dishonesty—if labor is to be considered a commodity. The San Antonio Associa-

tion finds that the situation is well illustrated by the general building trades. The average daily records of general contractors in that city show that the output of the average carpenter at six dollars per day is approximately 50 per cent less than his pre-war output at four dollars per day. Under the four-dollar wage a carpenter averaged from 800 to 1,000 board-feet of lumber per day; under the six-dollar day the average daily output per man is 400 to 750 board-feet.

Already the San Antonio Association is spreading its propaganda in a demand for an honest day's work throughout Texas, and intends to move upon the nation. San Antonio has taken upon itself a very practical work in connection with the general demand for a readjustment of production. THE MINING CONGRESS JOURNAL has long held that the foundation of the present contest between employer and worker—and the basis of the high cost of living, is abnormally low production per man and while this might be discussed from many viewpoints, San Antonio has merely developed and put into concrete form a movement which has been in the minds of the general public for a long time. The Texans have made use of the knowledge which has been quite general throughout the nation since long before the armistice was signed—that the increased wage of war-time destroyed to a certain degree a spirit of competition among workers, and eliminated to a large extent the belief that the wage scale must be based on efficiency in production.

THE ARIZONA CHAPTER.

One of the most successful meetings ever held by the Arizona Chapter of the American Mining Congress was that held in Phoenix, December 8, when there were present a large number of representative operators from various sections of the state.

A lengthy survey of the work accomplished by the twenty-second annual convention of the American Mining Congress in St. Louis was given by Mr. J. E. Curry, the able secretary of the

Arizona Chapter, who, in the opening paragraph of his report to the Arizona Chapter, said:

"Destined to go down in history as the most important gathering, in point of concrete achievement, of mining men ever held in the United States, the national convention of the American Mining Congress, recently concluded in St. Louis, has left a record fraught with far-reaching and hopeful significance to every mining district in the country, as well as to the national labor situation in general."

The resolutions adopted by the St. Louis convention were re-adopted by the Arizona Chapter as the declaration of its principles at that time.

Norman Carmichael, of Clifton, governor of the Arizona Chapter, was unanimously reelected. Other officers elected were: G. M. Colvocoresses, of Humboldt, first vice-governor; F. W. MacLennan, of Miami, second vice-governor; Colonel J. C. Greenway, of Warren, third vice-governor; H. J. McClung, of Phoenix, treasurer. Only two new members were elected to the board of directors, which has a membership of 14. W. S. Boyd, of Ray, was named to succeed L. S. Cates, and F. W. MacLennan, of Miami, to succeed B. Britton Gottsberger. The splendid record of Jos. E. Curry was recognized through his reelection to the office of secretary.

The vital importance of the American Mining Congress as a factor in national life was discussed by Secretary Curry and other representatives of the Arizona Chapter who attended the St. Louis convention.

The contingent representing the Arizona Chapter at the St. Louis meeting consisted of Jos. E. Curry, Bisbee, secretary of the Arizona Chapter; G. M. Butler, Tucson, dean of the College of Mines and Engineering and director of the State Bureau of Mines; R. A. Watkins, Phoenix, editor and publisher of the Arizona Mining Journal; Ira Jaroloman, Warren, chief geologist of the Calumet and Arizona Mining Company; Thos. O. McGrath, Bisbee, auditor and assistant to manager of Shattuck and Denn-Arizona Copper companies; Capt.

H. H. Stout, Douglas, smeltery superintendent Copper Queen Branch Phelps Dodge Corporation; Dr. Chas. A. Lawrence-Gehrman, Oatman, of the Record Lode Gold Mining Company, and C. M. Zander, Phoenix, of the Arizona Tax Commission.

FIVE DAYS OF HARD WORK

President E. D. Lidstone, of the Black Hawk Consolidated Mines Company of New Mexico, was a "working member" of the twenty-second annual convention of the American Mining Congress at St. Louis. We use the term advisedly, as Mr. Lidstone represented his state on the Resolutions Committee, which spent the equivalent of two and a half days in session, during the week. In his leisure hours he attended the General Sessions, the National Gold Conference, the War Minerals Conference and a few banquets. In the remaining hours he slept. Upon returning home Mr. Lidstone described the meeting tersely as "five days of hard work."

Mr. Lidstone found, as did the other delegates and visitors, that the American Mining Congress called and conducted the St. Louis convention with one object: The organization of a business program upon which a troubled industrial world might work out a salvation typically American.

REGRETTABLE

It was most unfortunate from every standpoint that the distinguished representatives of foreign lands who were sent here by their respective governments to attend an International Labor Conference were placed in the embarrassing position of being official guests to whom, from their own viewpoint, were due certain international courtesies, but upon whom, because of the peculiar circumstances surrounding the conference, no courtesies could be bestowed by our Government.

The International Labor Conference was called in America upon the invitation of Mr. Gompers, of the American Federation of Labor. The Government

of the United States, not having endorsed this conference through the adoption of the League of Nations, could not, of course, treat with the International Labor Conference delegates upon an official basis, and it is going to take considerable explaining in the future to satisfy many of the governments who participated in the international conference. It is to be presumed that representatives of organized labor who came from foreign countries understood the conditions and circumstances, and that they did not expect official courtesies to be extended, but if the information is correct there seems to have been selected, by some of the governments at least, some highly successful business men, big employers of labor who were sent here to participate in the Conference in the anticipation that American business men would meet with them here and make possible an international Conference from which might be developed something practical and permanently of value. Individually there were courtesies extended to some of these distinguished visiting gentlemen, but the majority of them left the country without being able to understand why the business men and employers of labor of the United States could not and would not participate actively in a labor conference in which Mr. Gompers and his associates were assuredly dominant and dominating figures.

CONGRATULATIONS

Congratulations are always due to the man who succeeds. Robert A. Watkins has become an interesting figure in the Southwest, as the editor and publisher of a live local mining publication with a national vision—The Arizona Mining Journal. But Mr. Watkins, while a man of parts and a hustler, has not found the load a light and easy one, even though he has been borne up by success and the endorsement of his constituents. He now makes an announcement which is another cause for congratulation. For several years Mr. Chas. F. Willis, mining engineer, was the director of the Arizona State Bureau of Mines. He was

a success in that position and was selected by the Phelps-Dodge Corporation to head their new department of Industrial Relations, organized two years ago. In that position Mr. Willis has attracted more attention than he knew, and his writings as well as his work have been notably successful. As the editor and special field representative of the Arizona Mining Journal, he began the new year. THE MINING CONGRESS JOURNAL greets the youngest member of the mining editorial fraternity with a great deal of pleasure. Mr. Watkins remains as publisher and general manager of The Arizona Mining Journal, and Mr. H. W. Stauffacher will remain as business manager and associate editor. We bespeak for The Arizona Mining Journal a prosperous New Year.

CREDITABLE WORK

Probably few people in the United States, outside of official railway circles realize the great task forced upon the United States Railroad Administration because of the coal strike, and while the public has had many reasons or thinks it has had, for protesting the manner in which the Government has handled many railroad problems, THE MINING CONGRESS JOURNAL desires to give Director General Hines and his associates well-deserved credit for the manner in which the problem of reorganizing the coal movement throughout the United States was attacked.

The public, generally, does not realize what it means to keep in excess of 30,000 coal cars moving into and out of coal mining camps every day. The interruption of normal distribution of these cars through the national strike very naturally resulted in a serious disarrangement of the supply of cars. These cars were stored everywhere at convenient points and in some cases were found far from the point of origin and requirement when, almost without warning, the coal strike was declared at an end. To move 30,000 coal cars and to seize and repair the broken machinery of transportation appears like an appallingly difficult task,

but the Railroad Administration had prepared for this movement, knew where every car was located and so allocated its locomotives and distribution orders that within a few hours from the time it was positively known that the strike was ended these cars began to move in strings ready for the precious supply of fuel. Perhaps the most difficult feature of the task and one for which the Government must be given great credit for proper handling was developed by the fact that the first production of coal from many districts must of necessity be sent to unusually distant points through the system established for immediate relief of the more serious demands. The problem was how most quickly and effectively to send each car to its destination, even though it might be hundreds of miles from the usual distributing points. Owing to the fact that the middle and far-western states were in the most serious condition and suffering from a severe and prolonged cold wave, it was necessary to deplete tonnage in the eastern states and rush coal into the suffering districts. Prompt as was the response of the miners to the demand that they return to their work, there was still great difficulty and many serious problems to face in connection with the distribution of the first few thousand precious tons which must be sent to save the lives and give warmth and power in fireless homes and silent shops.

To Mr. Hines is due great credit for the fairness with which the increasing tonnage quickly found its way to the people and to the industries.

In connection with the resumption of the coal production, it is interesting to note that the 129 railroads handling coal tonnage hauled 32,989 cars from the mine mouth on December 17 of last year, as compared with 29,000 cars on the same date in 1918, the total loading of all loads on that date being 10.9 per cent above the loading on the same date in 1917. These figures are a credit to the miners who returned so promptly to their work and to the railroads for their prompt handling of the product.

THE ENDLESS CIRCLE

Labor can be its own "best friend," or its own worst enemy. Lord Leverhulme, England's philanthropic manufacturer, who is urging the adoption of the most radical reforms in hours and conditions of labor, says that "the workers consume 95 per cent of the production," hence anything that affects production directly, affects the workers.

Strikes, righteous or unrighteous, stop production. Reduced production creates undue demand for what reaches the market. Undue demand creates unnatural prices. Unnatural prices increase the living cost of the worker. Increased living cost reduces the worker's income. Another strike for higher wages slows down production, though it may increase the worker's wage. The procession moves around the circle—but spirally—toward the top.

There is always a "higher point," that is—until the top is reached. Where then?

If Lord Leverhulme is correct, and it is also true that 70 per cent of the cost of an article is chargeable to labor, then how can the worker shirk his share of responsibility in the proposed readjustment? He may evade, but he cannot escape, the issue finally.

Every strike thus rotates upon its own axis, back to the worker, who pays 95 per cent of the bill.

THE STORY

H. C. of L. caused discontent.

Four hundred thousand bituminous miners couldn't live without more wages.

Demanded less work, 60 per cent more pay and another day for rest and recreation.

Didn't get it—or them.

Told the public couldn't live and pay their bills.

Inhuman operators excoriated and starving women and children held up to public gaze.

President Wilson told miners that to strike was unlawful and outraged public warned miners that law-breakers would receive no sympathy.

Law defied and mines closed down.

Women and children made to live in fireless homes during blizzard period of serious proportions.

Industries shut down and hundreds of thousands of men—not in the least interested in the game—forced to lose much needed wages.

Schools, churches, theaters, stores closed or partially so and millions lost in Christmas trade.

Commerce halted and profits destroyed in many lines.

U. S. Court finally took a hand. Arrested strike leaders.

Wave of patriotism and Simon-pure Americanism suddenly overwhelmed the strike leaders who—in the name of "patriotism"—ordered miners to work.

Costs checked on.

Losses estimated by statisticians at \$126,000,000, of which \$60,000,000 was lost to miners in wages. The other \$66,000,000 was paid by the innocent bystander.

Miners, through disregard of law and public welfare, will pay for the loss of public respect for many years.

Public is trying to figure out how the strikers can be made to settle the whole bill with payment of interest to the innocent bystander.

H. C. of L. just \$60,000,000 higher for the miners.

Selah!

CURRENCY INFLATION DECLIN- ING GOLD PRODUCTION

An editorial in The Commercial and Financial Chronicle of December 27, 1919, contained the following terse statements with reference to the continuation of currency inflation:

Last week, the twelve Reserve banks combined emitted new notes in amount of \$81,500,000, while in the period from November 14 to December 19 the increase was over \$180,438,000—the total of Federal Reserve notes in circulation in this period rising from \$2,808,456,000 to \$2,988,894,000.

It is difficult to understand why the Federal Reserve Board, so strongly committed to the policy of correcting inflation and curbing speculation, should permit this steady expansion in Reserve note issues on the part of the twelve Federal Reserve

banks to go on unchecked. It is all well enough to raise discount rates, and the process is sound and healthy, but so long as there is constant expansion in the volume of outstanding notes marking up discount rates will most assuredly prove ineffective. Credit inflation and price inflation will both continue ad infinitum so long as new note issues are permitted to go on. For the same reason efforts to reduce the high cost of living must prove in large part futile.

The Reserve Board speaks of last week's \$81,500,000 addition to the volume of Federal Reserve note issues as "the usual Christmas expansion of Federal Reserve note circulation," and it is well known that the members of the Reserve Board entertain the beautiful theory that no more notes can be forced into circulation than the channels of trade require, but that is all fol-de-rol. If the Reserve banks are to grapple with the inflation evil in dead earnest they must put an end to new note issues, and it is well to begin at once. It somehow happens that whenever a new lot of certificates of indebtedness is offered for subscription by the Secretary of the Treasury the total of Federal Reserve note issues immediately runs up, in response to new borrowing on "war obligations," but it also happens that as borrowing on these "war obligations" is reduced through the retirement of the certificates, no corresponding reduction—in fact, no reduction at all—occurs in the volume of Federal Reserve notes in circulation. In other words, the notes when once put out, stay out.

If inflationary tendencies are to be checked, the evil must be attacked at its source. In times like these idle persiflage is a poor reliance and even the moral effect of occasional advances in discount rates must prove of little avail. An actual prohibition must be put on new note issues. If the effect is to advance money rates to still higher figures, all the better. High money rates are the true and proper corrective. An injection of more note issues when the country is already flooded with them can only serve to delay the day of reckoning—not to avert it.

In the ten-months period ending with October, exports of gold from the United States totaled approximately \$270,000,000, which represents by far the greatest outward movement of the metal in our history, except for the first ten months of 1917, when we were shipping large amounts of gold to finance our troop movements in France.

This extremely heavy drain by exportation of the metal upon our monetary gold reserve, coupled with the contin-

ually expanding volume of currency, had reduced the gold reserve ratio of the Federal Reserve banks held against their deposit and note liabilities to 45.6 per cent on December 19, 1919. It will be recalled that the Federal Reserve Board is restricted by law to carry a reserve of 35 per cent against their net deposit liabilities and 40 per cent against the Federal Reserve note liabilities. The gold ratio has declined further than conservative financiers would like to see it.

There are two effective remedies for this situation: First, to continue to advance the discount rate, thereby contracting the volume of credit outstanding and followed by a corresponding contraction of the volume of Federal Reserve bank notes in circulation; and second, to increase the production of new gold to so meet the requirements of the arts and trades that it will protect the monetary gold reserve from depletion by industrial use. Both of these remedies should be put into effect at the earliest possible moment. To do so will have a controlling influence in lessening commodity prices by increasing the purchasing power of the circulating dollar, which not only will have a stabilizing influence upon wages and the production of industry within the country, but will tend to lessen the disparity in foreign exchange, which now threatens seriously to limit the sales of American produce in European countries, and upon which the industrial prosperity of the United States largely depends.

The Federal Reserve Board has been endowed with all the authority necessary to put the first remedy into effect. The American Mining Congress has prepared a bill to submit to Congress, imposing an excise upon the consumer of gold in the industries, from which to pay a premium to the producer of the new gold ounce. By enacting this legislation, Congress will have created the machinery whereby the second remedy may be put into effect.

1920

We have approached many new years in many different frames of mind. There

were the solemn ones throughout the period of the war, when each new year seemed black with portent. Then there were the old carefree days, when wine was a mocker and strong drink still raging, and it was considered quite *au fait* to approach the new year joyously.

As a nation, we approached the year 1919 high in hopes. The war was ended and the world was entering into a state of smiling, virtuous good-fellowship.

But in looking back over this year now just ended, we feel that not so much has come of our great expectations as they promised us. Legislation has not changed human nature. Our era of international good-fellowship has become a free-for-all fight with the Bolsheviks, and the problems of industrial and financial readjustment have shown the inherent selfishness of human beings. But beneath all these clouds of discord can be heard the steady rhythmic onward march of a mighty people, going forward through new hopes to new achievements. So with the courage given us by our justified faith in ourselves as a great nation, let us go into the new year of 1920 seriously, but not solemnly, with high purpose and with the strength needed day by day to achieve this purpose.

And may we all at its end, look back with deep satisfaction over a year which has brought forth a united, harmonious, industrious nation.

companies gave no figures for November, but furnished estimates of the combined output of November and December. The production of blister and Lake copper from domestic ores was 1,278,000,000 pounds in 1919, against 1,908,000,000 pounds in 1918 and 1,224,000,000 pounds in 1913.

The supply of refined copper (electrolytic, Lake, casting, and pig) from primary sources, domestic and foreign, for 1919 is estimated at 1,800,000,000 pounds, compared with 2,432,000,000 pounds for 1918 and 1,515,000,000 pounds for 1913.

According to the Bureau of Foreign and Domestic Commerce, the imports of copper in all forms for the first ten months of 1919 amounted to 346,855,000 pounds, against 575,800,000 pounds for the twelve months of 1918.

The exports of pigs, ingots, bars, plates, sheets, rods, wire, and like copper products for the first eleven months of 1919, as determined by the same bureau, amounted to 496,350,000 pounds; the exports for the twelve months of 1918 were 744,429,000 pounds.

At the beginning of 1919 about 180,000,000 pounds of refined copper were in stock in the United States. Adding this quantity to the refinery output for the year shows that the total available supply of refined copper was about 1,980,000,000 pounds. On subtracting from this total the exports for the first eleven months and the estimated exports for the last month, and assuming that there was no change in stocks, it appears that the supply available for domestic consumption in 1919 was considerably less than the 1,661,000,000 pounds available in 1918.

COPPER COMPANIES SEEK

TO LESSEN INEFFICIENCY

It is notable that with the decreased profits available in the operation of some copper companies, attention is focused more and more on efficient management and supervision, particularly in the score of labor. For instance, it is reported that one important mine in Butte due to intense supervision over its miners, has been able to reduce the cost of copper production almost one-third, as compared with costs at the time of the signing of the armistice. This very material reduction is attributed to the greater efficiency of labor and saving in material due to the new card rating and labor employment system introduced. The old and more inefficient method of relying upon the mine foreman or shift boss to secure the necessary labor has yielded to a systematic effort to procure efficient help.—Bureau of Mines.

COPPER PRODUCTION SMALLER IN 1919—EXPORTS FALL OFF

The production of copper in the United States in 1919 was markedly smaller than in 1918, according to preliminary figures and estimates collected by B. S. Butler, of the United States Geological Survey, Department of the Interior, from all plants that make blister copper from domestic ores or that produce refined copper. At an average price of about 19 cents a pound, the output for 1919 had a value of \$243,000,000, as against \$471,900,000 for 1918.

The figures showing the smelter production from domestic ores represent the actual output of most of the companies for the first eleven months of the year and the estimated output for December. A few

NATIONAL SHIPPERS' CONFERENCE

Memorial of the National Shippers' Conference to the Joint Conference Committee of the United States Congress considering House Bill No. 10453. Providing for the termination of Federal control of railroads and other amendments to the Act to regulate commerce.

Representatives of 147 shippers' organizations, having a combined membership of more than one million shippers, handling live stock, coal, grain, lumber, oil, furniture, brick, dairy products and various other commodities, aggregating more than 75 per cent of the tonnage of the country, assembled in the city of Chicago, on this, the 30th day of December, 1919, respectfully submit their views concerning the following propositions relating to the proposed railroad legislation now pending, and being considered by your joint committee:

1. House Bill No. 10453, as amended in the Senate (which will hereafter be referred to as the Cummins Bill), proposed to create a new commission to be known as the Transportation Board. It is contemplated by the said measure that this new tribunal shall take over a number of the functions now exercised by the Interstate Commerce Commission in relation to the control over public service; and that it shall further invade the province of the Interstate Commerce Commission in the establishment of reasonable rates by making public recommendations in rate advance cases without the necessity of conducting any public hearing in regard to the same. The creation of an additional federal board of this character is wholly unnecessary, and will serve to create confusion and conflict in the regulation of our common carriers.

The Interstate Commerce Commission commands the confidence of the American people, and it merits our continued support. The powers of the commission should remain unabated and should be added to so as to enable it to effectually deal with national transportation problems.

Our system of railroad regulation, as it existed prior to the recent war, was the product of a generation of development—by the trial of cases before various tribunals and by the enactment of a system which protected the just rights of both the shippers and the carriers. We want these pre-war conditions restored at the earliest possible moment without any more experiments or revolutionary changes. Business demands an immediate restoration to normal pre-war peace conditions.

We are equally opposed to any attempt to abridge the jurisdiction and functions of state commissions. We, as representatives of the shippers of the country, are

united in urging Congress to immediately restore the powers of the commissions and the courts, both state and federal, as they existed prior to the war.

2. We oppose any permanent form of a guaranty of, or limitation upon, the earnings of railway companies, as provided in the Cummins Bill; but we do not object to a continuation of the standard return provided in the railroad-control law approved March 21, 1918, for such a reasonable time as may be found necessary during the present transition period.

3. We oppose the appropriation by the Government of the surplus earnings of any railway company.

4. We are opposed to the compulsory consolidation of railroads as provided in the Cummins Bill. Guaranteed returns to any private industry removes the powerful incentive for personal initiative. It is economically unsound and socialistic in character; and such provisions should be eliminated from the measure.

5. We oppose the scheme of rate-making groups, the standardization of earnings therein and the federal incorporation of railroads as provided for in the Cummins Bill.

6. We are opposed to the pooling of the earnings of our common carriers.

7. We are in favor of the passage of legislation which will provide for the return of the railroads to their owners at the earliest possible moment and permit operation by them.

8. The public, being wholly dependent upon the daily, uninterrupted, continuous operation of our common carriers, we are in favor of the enactment of legislation that will effectually prevent a catastrophe that would call a general railroad strike, and which will, at the same time, fully recognize the just rights of the laborer and all parties in interest.

9. We favor legislation which will direct the Interstate Commerce Commission to investigate the rail and water transportation facilities of the United States with the view to making such recommendations to Congress as may be deemed advisable for the further development or unification of the same.

Metal Mining in Texas

According to Charles W. Henderson, of the United States Geological Survey, Department of the Interior, the Presidio mine, at Shafter, Tex., was in continuous operation during the year 1919. Small shipments of copper, lead, and zinc ores were made from the Van Horn and Sierra Blanca districts. The production for the state for the year was 540,000 ounces of silver and nominal quantities of gold, lead, copper, and zinc.

LEAD AND ZINC PRODUCTION DECLINES GREATLY DURING 1919

The mine output of lead and zinc in the United States declined greatly in 1919, following a sharp decline in 1918, according to a statement compiled by C. E. Siebenthal, of the U. S. Geological Survey, Department of the Interior, from reports and estimates by producers and from the records of the Bureau of Foreign and Domestic Commerce.

The output of soft lead by mines of the Mississippi Valley and eastern states was about 217,000 short tons, and that of argentiferous lead by mines of the western states was about 208,000 tons, a total of 425,000 tons, compared to 267,184 tons and 314,470 tons, respectively, a total of 581,654 tons, in 1918 and of 273,095 tons and 377,854 tons, respectively, and a total of 650,949 tons in 1917, a decrease of over 156,000 tons in 1919, as compared with a decrease of 69,295 tons in 1918. The southeastern Missouri district made the largest production, 153,500 tons, and the Coeur d'Alene district of Idaho was next, with 86,000 tons. The imports of lead in ore and bullion were about 63,000 tons, as compared with 93,367 tons in 1918.

The recoverable zinc content of ore mined in 1919 was about 569,000 tons, compared with 632,243 tons in 1918 and 713,359 tons in 1917. The output of the eastern states was about 116,500 tons, that of the central states was about 318,000 tons, and that of the western states was about 134,500 tons, compared with 124,268 tons, 302,662 tons, and 195,313 tons by those divisions in 1918. The output of the central states gained slightly over 1918, by an increase of about 20,000 tons in the Joplin district. The gain in this district was a result of an increase in the output of Oklahoma, which reached a total of over 189,000 tons, the largest zinc output ever made by any state. Oklahoma produced 161,401 tons in 1917 and Missouri produced 155,960 tons in 1916. In 1919 Montana apparently produced over 88,000 tons and New Jersey over 87,000 tons of zinc.

The imports of zinc in ore fell off from 24,809 tons in 1918 to about 17,000 tons in 1919. The zinc content of ore imported from Mexico dropped from 18,426 tons in 1918 to about 11,000 tons in 1919.

REFINED LEAD

The production of primary domestic desilverized lead in 1919 was about 208,500 short tons, of soft lead about 150,000 tons, and of desilverized soft lead about 61,500 tons, making a total output from domestic ores of about 431,000 tons of refined lead, compared with 539,905 tons in 1918, made

up of 282,024 tons of desilverized lead, 210,463 tons of soft lead, and 47,418 tons of desilverized soft lead. The output of lead smelted and refined from foreign ore and bullion was about 62,000 tons, compared with 100,290 tons in 1918. The total lead smelted or refined in the United States was thus about 493,000 tons, compared with 640,195 tons in 1918. The production of antimonial lead was about 10,000 tons, against 18,570 tons in 1918. The exports of lead of foreign origin were about 44,000 tons and of lead of domestic origin about 14,000 tons, compared with 40,480 tons and 64,194 tons, respectively, in 1918, a decline of nearly one-half in the total exports. The quantity of lead available for consumption in this country was about 456,000 tons in 1919, compared with 493,625 tons in 1918. In comparing the quantity available for domestic consumption in 1919 with that available in 1917 and 1918, it should be noted that considerable quantities were shipped abroad in those years for the use of the American Expeditionary Force, which, not being recorded as exports, are included in the apparent consumption.

The average price of lead at New York in 1919 was 5.8 cents a pound, as compared with an average value of 7.1 cents in 1918. At the beginning of 1919 lead was quoted at 5.75 cents, but it went slightly below 5 cents in April and May, after which it steadily climbed until the close of the year, when it was quoted at about 7.5 cents. This advance in price, despite the falling off of exports and the cessation of shipments to the American forces abroad would seem to indicate that the production has been nicely adjusted to the needs of the domestic building program.

The Flint Mill & Furnace Co. built a 20-ton Fink furnace at Wauwatosa, Wis., in 1919 to treat Wisconsin lead concentrates. The Mineral Point Zinc Co., at Depue, Ill., operated a lead blast furnace upon valuable lead-bearing, zinc-retort residues. The U. S. Smelting, Refining & Mining Co. acquired the electrolytic lead refinery at Gressell, Ind., from the U. S. Metals Refining Co., near the close of the year. Many lead smelters were closed for longer or shorter periods during the year or ran at partial capacity. The Globe plant of the American Smelting & Refining Co., at Denver, Colo., was permanently closed early in the year.

ZINC

The production of primary metallic zinc from domestic ores in 1919 was about 446,-

000 tons, and from foreign ores about 13,000 tons, a total of 459,000 tons, compared with 492,405 tons and 25,522 tons, respectively, a total of 517,927 tons, in 1918. Of the output of domestic zinc in 1919 nearly 27,000 tons consisted of electrolytic zinc, as compared with 38,916 tons in 1918. In addition there was an output of over 17,000 of redistilled secondary zinc compared with 9,597 tons in 1918, making a total supply of distilled zinc in 1919 of 476,000 tons, of which about 45,000 tons was of high grade, 24,500 tons was of intermediate grade, 77,500 tons was select and brass special, and 329,000 was prime western. The production of the corresponding grades in 1918 was 129,023 tons, 68,937 tons, 98,584 tons, and 230,930 tons, respectively. Of the total output of primary zinc in 1919, about 118,000 tons were made in Illinois, as against 141,844 tons in 1918, 43,000 tons in Kansas as against 29,149 tons, 119,000 in Oklahoma as against 139,066 tons, and 65,500 tons in Pennsylvania as against 77,342 tons in the preceding year.

The exports of zinc made from foreign ores were about 17,500 tons and those of zinc from domestic ores were about 127,000 tons, compared with exports of 26,837 tons of foreign and 80,244 tons of domestic zinc in 1918. The exports of domestic zinc include about 20,000 tons of sheet zinc, as against 13,875 tons in 1918. The stock of zinc at smelters and in warehouses at the end of November was about 51,500 tons, as against 59,651 tons on June 30, 1919, and 41,241 tons at the close of 1918. The apparent consumption of primary zinc during 1919 was about 304,000 tons, compared with 423,361 tons in 1918 and 413,643 in 1917, a quantity somewhat below the pre-war figure, which for the years 1910-1913 averaged 327,255 tons.

At the end of November 100,800 retorts were in operation at plants having a total of 158,000 retorts, as compared to 82,000 retorts in operation out of 159,000 on June 30, 1919, and to 123,350 out of 170,500 at the end of 1918. At the end of November all redistilling plants using large graphite retorts were closed but one, as well as all electrolytic zinc plants except the small experimental plant of the Illinois Zinc Co., at Peru, Ill.

The average quotation for prime western zinc at St. Louis in 1919 was 7 cents a pound, compared with 8 cents in 1918. The price of prime western zinc began the year 1919 at 7.7 cents in the St. Louis market, declined below 6 cents in May, rose to nearly 8 cents at the end of July, dropped back nearly to 7 cents late in September, and then improved to the end of the year, closing at about 8.7 cents.

The decrease in smelter stocks since June 30, coupled with the practical ab-

sorption of the large government stocks held by the Ordnance Bureau at the beginning of the year, taken with the continuance of large exports and the growing demands of the domestic building industry, caused the stiffening of prices and the increase in operating capacity during the last quarter of 1919. The exports of zinc averaged over 11,500 tons monthly. Great Britain made the largest demand for our exports of slab zinc, taking the greater part of them doubtless in rebuilding her export trade in galvanized products, and France, Japan, and Italy were next in order. Italy was the largest importer of sheet zinc from the United States in 1919, Great Britain was a close second, and Japan took an important quantity.

The Metal Bulletin of London, under date of December 16, 1919, calls attention to the critical state of the British zinc smelting industry and, considering the possibility of obtaining zinc from other countries, points out that Germany, on account of lack of fuel and ore, is producing only about 3,000 tons a month, no more than her own needs; that Belgium, producing now about 3,000 tons a month, will need the whole of her output in 1920 for sheet zinc; that France, on account of the destruction of her works and lack of coal, cannot be counted on for supplies in 1920, and that works in Holland are closed because of the prohibitive price of coal. The inference is that the United States will continue to export zinc to England at least for a year.

Colorado Mining in 1919.

The mine output of gold, silver, copper, lead and zinc in Colorado for eleven months of 1919 and the estimated output for December, according to data compiled by Charles W. Henderson, of the United States Geological Survey, Department of the Interior, amounted to \$9,892,000 in gold, 5,630,000 ounces of silver, 35,650,000 pounds of lead, 3,400,000 pounds of copper, and 52,300,000 pounds of zinc, having a total value of \$22,522,000, as compared with \$12,751,718 in gold, 7,063,554 ounces of silver, 65,960,760 pounds of lead, 6,277,332 pounds of copper and 89,133,901 pounds of zinc, having a total value of \$34,160,172 in 1918. This estimate shows a decrease of \$2,860,000 in gold, 1,430,000 ounces of silver, 32,160,000 pounds of lead, 2,877,000 pounds of copper, and 36,834,000 pounds of zinc. Even at the increased value for silver of \$1.11 (average), as compared with \$1 in 1918, the value of the silver produced in 1919 was \$6,249,000, as compared with \$7,063,554 in 1918, and with the lower average prices for lead, copper, and zinc, there were respectively, decreases of \$2,651,000, \$915,000 and \$4,398,900.

STABILIZATION OF COAL MARKETS

Under date of December 13, the following letter and resolution were mailed to the coal operators of the country. The replies have been extraordinarily interesting, and from among the volume so far received we are submitting to our readers the following expressions of opinions from prominent coal operators in different sections of the country:

The following resolution, presented to the American Mining Congress during its Twenty-second Annual Session in the city of St. Louis, November 17 to 21, inclusive, by Col. Warren R. Roberts, of Illinois; Prof. H. H. Stock, and Frank W. DeWolf, of the Department of Mines, of Illinois, was unanimously adopted by the convention, and is transmitted to you herewith.

The American Mining Congress will be glad to hear from you at once, with your expressions as to the value of this resolution, and as to the method to be followed in further promoting the welfare of the coal industry and the stabilization of the coal market.

It is the desire of the American Mining Congress not only to have the cooperation of all coal producers in this matter, but to cooperate with all coal organizations in furthering this movement.

Very truly yours,

THE AMERICAN MINING CONGRESS.

Stabilization of Coal Markets

"Whereas, a more uniform production of coal throughout the year would stabilize work at the mines and allay the dissatisfaction among workers due to irregular work and give a more economical production of coal through the better utilization of equipment and invested capital; and

"Whereas, more uniform production would distribute the transportation of coal throughout the year, thus relieving the railroads during the fall and winter seasons, when agricultural products must be transported, and when the cost of transportation is most expensive; and

"Whereas, it is only feasible for the ultimate consumer to store for future use coal produced in excess of current demands, and as the time for such storage of coal from April 1 to September 1 best meets the above conditions, and

"Whereas, it is deemed advisable to stimulate the buying of coal during this period by lowering the price of coal; therefore, be it

"Resolved, that this Congress favors the establishment of such differential in freight rates on coal during the period April 1 to

September 1 and such legislation as will permit coal operators to fix a definitely lower price for coal during such period, thus stimulating the early storage of coal and relieving the railroad congestion during the movement of crops."

Chicago, Ill.

"Conditions which have existed recently as to the threats to take coal away from those who had the forethought to stock it in order that it could be given to the 'foolish virgins,' who did not put in a stock, are a disgrace.

"The fear of lack of supply, as well as the difference in price, should be a sale inducement, but we should not be hindered by any possibility of a drop in the price later on in the season. On this account government cooperation must be secured."

St. Louis, Mo.

"Every important and experienced railroad traffic manager agrees with me that the reductions be made for six months and the increases for six months, balancing the measure of rate paid by large industries who buy coal regularly throughout the year, as, for instance, steel companies who operate their own properties, etc. It is my thought that the tariffs should publish the basic rate with a footnote to the effect that all shipments moved March to August, inclusive, be moved at a rate of 15 per cent below the basic rate shown in the tariff, and all shipments moving September to February, inclusive, to carry a rate of 15 per cent above the basic rate, the spread would therefore be 30 per cent, the measure of the spread bearing a direct relation to the rate.

"I am thoroughly in accord with the theory of stabilizing mine prices, but to my mind that represents a formidable job, some six or seven thousand operators with the most extraordinary difference in grade of product, etc., presenting a situation quite unlike that in the anthracite field. It occurs to me if we could get the grading of the freight rate through, such would offer a splendid start for the broader handling of stabilization."

Chicago, Ill.

"We have no doubt a reduction in freight rates throughout the summer months might tend to increase storage by both domestic and industrial consumers. We are opposed to that portion of the resolution, however, reading, 'as will permit coal operators to fix a definitely lower price.'

"So far as we are informed, the coal industry has had about all the legislation and handicaps from politically constituted

bodies that it can stand for a while. Every piece of regulative or restrictive legislation enacted within the past several years, so far as we are able to observe, has increased the cost to the consumer and this is not good for any industry."

Louisville, Ky.

"If the railroad companies think that the advantage to them is great enough to warrant reduction, voluntary on their part, in freight rates during the months April 1 to September 1, inclusive, I can see no objection to this part of the resolution. However, I am opposed to all price fixing by or through legislative enactment. The coal operators, like the farmers, are too loosely organized to encourage anything of this sort, and they will be putting their heads in the lion's mouth.

"The records of the Geological Survey show that through a series of years prior to 1916 as much as 80 per cent of the entire production of the bituminous coal during certain years was sold for less than cost of production. From April 1 to September 1 of each year, coal is at its lowest price, and steam coal sold this year for less than cost of production on the open market as late as September.

"The experience of the coal operators in the past does not justify any encouragement to lower prices during any of these months, and especially not to fix prices by law during this period.

"Those who purchased the output of bituminous coal in the past have so frequently demonstrated their ability to put the price of this coal at whatever figure they are willing to pay for it. Whenever the production is equal to the demand or in excess of it, they have things their own way, and entrenched as they are in the financial and industrial life of this nation through the reconsignment of coal cars, as was clearly shown in 1917, they hammer the price down to their own figures."

Chicago, Ill.

"While I sympathize in principle of a dual freight rate—a lower one in summer and a higher one in winter—I doubt if this combination is practical, for the reason that the differential, in order to be effective, must be greater than the carriers could stand. The suggestion that the operators be permitted to follow the example of anthracite shippers, seems the more attractive, although it must not be overlooked that anthracite moves in large volume during spring and summer to the lakes, an outlet that western bituminous coal does not enjoy. Besides, the greatest obstacle to the storage of western bituminous is its susceptibility to spontaneous combustion. This, to my mind, is by far the

greater problem, more so, as I see it, than the adjustment of costs."

Black Betsey, W. Va.

"We believe if same was adopted that it would be a good thing for both the operator and the miners, as it would enable us to work our mines steadily the year through."

Brazil, Ind.

"We beg to advise that the resolution has our heartiest endorsement, for the reason that we believe that the fundamental trouble in the coal industry is definitely stated in the first proposition of the resolution.

"Some solution must be found to correct an over-supply of labor, for, after all, there is just so much coal needed during the twelve months, so that if there is more coal produced from April 1 to September 1, there will naturally be less required after September 1. Unless this resolution will, or any other program, correct that fundamental condition, I do not see how, in the last analysis, there will be much gained. If we stimulate the work between April 1 and September 1, and there are still as many miners and mines to produce, there will be a less demand in the fall"

Knoxville, Tenn.

"We have read the resolution referred to and take pleasure in advising that while we approve the principles suggested, still we feel that the objects of the resolution will not be obtained until the public has been thoroughly educated to the importance of the fundamentals as embraced in the resolution. This is a work, of course, that must be propagated by the National Coal Association, American Mining Congress, and other associations and organizations interested in its attainment."

Birmingham, Ala.

"Coal should be and could be most properly also accumulated in the summer months for bunkering steamers. It goes without saying that domestic yards for retail distribution ought to be stocked to the uttermost during the summer months.

"There is a deplorable tendency to discuss this whole subject in Congress and in the newspapers as from the standpoint of men who only claim to work from 180 to 220 days per annum, and to ignore as I say, the districts which depend upon continuous industrial processes. Thus, in this particular district which depends upon the iron and steel trade, the blast furnaces and coke ovens run continuously and our coal mines are supposed to operate 311 days per annum, only stopping for Sunday, July 4 and Christmas Day. There is no excuse whatever for men in this dis-

strict claiming that they only earn 200 days' wages in a year; there is no man who might not work 300 days per year. It is the best possible business for the railroads also. There is no necessity for any differential in freight rates as between one month and another in this district, because the service performed is the same—a trainload of coal is made up at one of our mines, the railroad hooks onto it, pulls it to our steel works, turns it loose and returns immediately with a trainload of empties, and while it is gone our own switching locomotives distribute the coal to the by-product coke ovens or to the bunkers for steam and gas coal. This process goes on every day and so many cars are, or should be, allocated to the service and never changed.

"What I am trying to point out to you is the misleading effect of attempting to average the days worked at coal mines, and the days on which coal is transported; the average should be computed after excluding the continuous industrial consumers."

Somerset, Pa.

"We are heartily in accord with this resolution and feel that it would go a long way toward solving the dissatisfaction incurred in the mining region, caused by the closing of a large number of mines during the summer months on account of inability to dispose of their coal, and, furthermore, causing the mines to work part time in the winter, due to the railroad company's inability to furnish equipment to transport twelve months' business in six or eight months. We feel that this matter should be put up to the National Coal Association, as well as the National Chamber of Commerce, and we feel that they would cooperate with the American Mining Congress in inducing Congress to pass a law for the railroad companies to adopt measures to carry out the proposition as outlined in the resolution."

Chicago, Ill.

"I am in favor of any stimulation to increase a demand for coal during the summer months and it is possible some concession in freight rates during the dull period would help the situation. As far as the operators are concerned, they must secure a certain average price throughout the year above their cost of production and the bulk of the contract tonnage is taken on that basis. The trouble is the general public, including domestic consumers and the smaller users of coal, wait until cold weather to lay in their supply, just like you and I would wait until spring to buy lawn mowers and garden hose, when they might be purchased for less money in the fall and winter months, so that some propaganda is necessary to educate the con-

suming public. Price concessions on the part of the coal operators in the spring and summer have heretofore proven ineffective."

Birmingham, Ala.

"I think the resolution is very much to the point and whatever can be done to stimulate the marketing and movement of coal during the summer months will be of great value to the coal industry and to the public generally."

Chicago, Ill.

"We are not in favor of any legislation which will have anything to do with the prices at which operators are permitted to sell coal. There is no question about our being permitted to sell coal just as low as we want to do so, but there might be legislation which would prevent us from going high enough in the winter to offset the low prices in summer and I suppose that was what was in mind when this resolution was brought up, but coal operators are very definitely of the opinion that they should be able to conduct their business the same as 99 per cent of the other industries are."

Benton, Ill.

"Replying to your inquiry of the 13th, relative to opinion on the resolution adopted by the convention November 17 to 21:

"First, it is the writer's opinion that the establishment of a differential or lower freight rate during such period will not stimulate the buying of coal. Second, I do not think that it will be necessary to place any legislation to permit operators to lower the price of coal, as they already have that right."

Denver, Colo.

"While we are quite convinced that your aims are conscientiously well intended, we regret to have to state that we are not in accord with your resolution, especially that part pertaining to further legislation. It is very strongly our opinion that there is already too much legislation pertaining to the coal industry and that the industry would be much better off if there were less legislation instead of more.

"To come to the points in question, those of differential in freight rates in favor of summer shipments of coal and differential in mine prices of summer-mined coal, we admit these are admirable aims, aims that will help the market situation, and we are heartily in favor of them, but not through the medium of legislation. The mines during all normal years have, we believe, as a rule, done their part by allowing the summer differential. They have found it advantageous and economical to do so and any legislation in this matter, we

believe, would be superfluous and might only aggravate a situation which the mines have heretofore shown their willingness to meet.

"We firmly believe that the coal problem should be and can be solved only by the coal men, the rail problem by the rail men, etc., and not by the politicians.

"Any influence your organization may have, and we believe this is considerable, can be, in our opinion, best used in endeavoring to get much existing legislation cancelled or repealed and to discourage any further legislation affecting specific industries and then urge the coal men and the rail men to get together to discuss and consider the advisability of such a move as the allowance of summer differentials on coal and coal freight rates. We believe, if unhampered, they will voluntarily grant this concession unless some insurmountable good reason is brought up against it.

"Then we believe it would be well if you would direct your efforts toward making the government departments see the advantage of buying and storing their coal in the summer instead of delaying and not even awarding their contracts till August and September as the War Department did this year and probably many other of the departments. The proper use by the Government of its buying power, especially this past year with the railroads in its hands, would have solved the market difficulty to a great extent. By exerting pressure on such points as these and not by legislation, we believe is the only way this problem will ever be satisfactorily solved."

Philadelphia, Pa.

"Anthracite coal, as you are aware, can be stored in large quantities without risk of spontaneous combustion, but the logical and most practical place to store anthracite coal, especially the domestic sizes (which constitute 75 per cent of the product) is in the cellars of houses and in the retail coal yards, and any reduction in freight rates which would stimulate the buying during the spring and summer months would certainly be desirable, but a reduction in prices while it has been done in the past, is, in my opinion, an evil of the trade and not something to be desired. The railroads should be compelled to move the bulk of this product during the summer when the transportation is simple compared to the difficult conditions encountered during the winter months, but under no circumstances am I in sympathy with any reduction in the prices of coal in this connection.

"The operators have borne this burden for a great many years and the results of the past two years, as reported to the Federal Trade Commission, are well known

by this time, and any reduction in prices would add to the already tremendous losses which have been suffered in the anthracite industry during the last two years."

Huntington, W. Va.

"In the first place, miners generally are open to severe criticism for their usual disinclination to accept regular employment in the mines at times during the year when business affords and car supply will permit. In other words, I know from personal experience that 20 per cent to 25 per cent of the men employed at the various companies in this section of the country will not work regularly when the opportunity is given them.

"It is, in my opinion, a good business proposition to offer an inducement of a lower price in coal, provided the railroads would make a like reduction in freight rates during the summer season, in order to induce the coal consumers of all classes to store coal, provided, of course, operators were given the opportunity of increasing their prices commensurately during the period from October 1 to March 31."

Minneapolis, Minn.

"We are satisfied that one of the troubles in connection with coal at present is found in connection with the periodic loss which occurs, frequently resulting in no business one day and a rush of business the next day, and any educational work that can be done along these lines will not only benefit us as coal miners, but will prove of immense benefit to the consumer of coal, who will thereby pay a steady price for his coal rather than a low price one day and a high price the next. Of course, it is unnecessary for me to say in this connection the present uneconomic way of operating the mines results in a terrific waste which the consumer has to pay.

"If some plan such as is proposed by your resolution could be adopted, this waste would be eliminated and ultimately the consumer would be able to buy his coal cheaper, compared with the prices obtained under the old method of doing business."

Cleveland, Ohio.

"To bring about the result that is aimed at it would require a very substantial decrease in freight rates to induce the public to buy and store coal, although I think they have been getting recently some very good education on those lines, and I think in the future all consumers of coal will be more inclined to carry reserve stock than they have in the past.

"In our particular district the railroads are very busy during the summer months hauling coal to the lake fronts for trans-

shipment via lake to the Northwest, and it is a question whether there would be any inducement to our particular carriers to make any lower freight rates during the summer months. Undoubtedly if anything of this kind can be worked out, providing the concessions are substantial enough, it would help the situation materially."

Omaha, Nebr.

"Favor the reduced freight rates, also some move to make a differential in summer prices on coal, provided the making of such prices was not made by legislation, but left to the coal operators themselves, who would best understand the minimum price which their property could afford to make for the summer months. Legislation, if on the wrong price basis, might easily eliminate all the profit that there might be in the coal business."

Dayton, Ohio.

"There is only one possible solution of the trouble that is chronic to this business, and that is more even production, and that cannot possibly be hoped for without the help of the steam and domestic consumers through the storage of coal during the summer months."

Fort Smith, Ark.

"We are heartily in accordance with the ideas as set forth in this resolution, particularly the last paragraph relating to a storage freight rate on coal during the summer months. There are some such differentials in effect now that have proven their worth. We would, also, be in favor of a general reduction in the price of coal at the mines during these months, providing the cost of production is not prohibitive."

LANE'S REPORT TO GO TO ALL INTERESTED IN POWER RESOURCES

The plea for constructive policies contained in the report of the Secretary of the Interior to the President is to be presented also to the engineers and business men who are developing the power resources of the country. The largest conservation for the future can come only through the wisest engineering of the present, the report points out.

The conditions under which resource utilization is demanded are outlined by Secretary Lane and it will be noted that the program recommended calls for the cooperation of engineer and legislator. To bring this power inventory to the attention of the men who furnish the nation with its coal and oil and electricity, an extract of the administrative report is being reprinted as a bulletin of the United States Geological Survey.

BISHOP EXPLAINS NEED FOR IMPORT DUTY ON MAGNESITE

Roy N. Bishop, general manager of the Northwest Magnesite Company, in a statement to the Senate Finance Committee, said, among other things:

"The only opposition to a tariff upon magnesite has been from an American company owning control in an Austrian magnesite company. The United States should decide whether it shall again become dependent upon Austrian magnesite or whether it will afford to the American industry born of the war the protection necessary for its continuance and to which it can turn in the event of another war.

"It would not seem prudent to protect American capital which is unfortunately invested in Austria, if in so doing it would crush an industry in the United States which has proven necessary in time of war, for it must be admitted that the American capital invested in Austria was unable in any way to assist our Government in giving it this essential material, but on the other hand, American capital had developed a mine in Austria which was used in an endeavor to crush our nation.

"About five pounds of magnesite is destroyed in producing one ton of steel. If a tariff of three-quarters of a cent per pound is placed on magnesite, the total additional cost of producing a ton of steel would be 3 3-4 cents, or slightly more than a postage stamp on a ton of steel. This cost is so insignificant that the larger steel interests feel that this magnesite industry should be encouraged so that they may be assured of a continued supply of magnesite in any emergency.

"The ultimate consumer, for instance, a mechanic, would not have to pay one cent additional cost for the purchase of his steel tools until he had purchased 500 pounds of tools, which is more than a mechanic uses in a natural lifetime. A tariff placed upon magnesite will therefore in no way affect the ultimate consumer, but will assure our Government the production of an essential war mineral and place us independent of a foreign country in the event of war and encourage the development of our own natural resources."

Silver Mining Booming

The prosperity of most metal mining industries in this country is greatly dependent on world conditions. While profitable gold mining is a problem attendant with many handicaps, silver mining is, on the other hand, finding its position one in which world trade factors have increased the value of its product more rapidly than the increase in cost of labor and supplies.—Bureau of Mines.

WAR MINERALS ACTIVITIES

Although a mineral exhibit under the auspices of The Mining Congress was somewhat of an innovation, the urgent importance of the war minerals situation seemed to justify this from an educational standpoint.

The organization, therefore, offers no apology for taking up many feet of exhibit space in St. Louis, and a page of this number of the Journal, with the War Minerals Exhibit, but rather takes pride in the cooperation of the war mineral producers which made it possible.

This was the only mineral exhibit shown at St. Louis under the auspices of the organization, but the importance of War Minerals and War Minerals problems are so little understood or appreciated, outside of the operators themselves, that this division of the organization wanted to show what the War Minerals operators of the country had to offer in the way of undeveloped resources and ore reserves, to take care of this country in times of need.

Five cases were filled with exhibits of these little known and understood minerals.

The Fern Quicksilver Company, of Boise, Idaho, sent a mammoth specimen of cinnabar ore, cinnabar concentrates and fine quicksilver.

Franklin Merritt, of Minnesota, exhibited some beautiful specimens of manganese and photographs of his large properties from which it is mined.

Several producers of chrome in California sent specimens of high grade chrome ore, among them E. J. Hawkins and W. J. Ohl-heiser.

The Burleson Mica Company, of Spruce Pine, North Carolina, had an interesting exhibit of raw and manufactured mica.

A. J. Woodruff, of Garrisonville, Virginia, sent an exhibit of pyrites, and the Illinois Coal Company exhibited pyrites obtained as a by-product in washing from their coal operations.

The Black Metal Reduction Company, of Boulder, Colorado, exhibited tungsten concentrates, and the Pacific Tungsten Company, of San Francisco, furnished a large exhibit of tungsten from the raw ore to the finished concentrate, illustrated with large photographs of its plant.

Crystalline graphite, little known in this country, was exhibited by the Crystal Graphite Company, of Dillon, Montana, and typical flake graphite was shown by the Eagle Graphite Company, of Ashland, Alabama.

The Clima Molybdenum Company, of Colorado, offered a complete exhibit of molybdenum ores and concentrates.

Otto Stange, of Bluefields, Virginia, exhibited photographs of his steam shovel manganese operations.

Because of the wide interest which this exhibit attracted and its importance both to those particular industries in War Minerals, and to those whom we want to know more about war minerals, this exhibit has been moved intact to Washington where it will form a permanent exhibit in the offices of the American Mining Congress.

Last month's Journal contained the two vital resolutions affecting war minerals, both from the standpoint of tariff and relief, which had their inception in the War Minerals Division of the convention. To carry out the plans formulated at the convention, the following committee arrangement has been decided upon. First, a committee for war minerals relief, made up of the following members: Manganese, Ross Blake, Batesville, Ark.; tungsten, Senator E. C. Voorheis, San Francisco, Cal.; chrome, Dr. J. F. Reddy, Medford, Ore.; pyrites, George L. Pratt, Atlanta, Ga.; at large, Victor Rakowsky, Joplin, Mo.

Second, a committee for war minerals tariff, made up of the following members: Manganese, W. E. Pettis, Cincinnati, Ohio; chrome, E. A. Dickey, San Francisco, Cal.; potash, Victor Barndt, Berkeley, Cal.; molybdenum, B. F. Phillipson, New York City; graphite, A. B. Conklin, Ashland, Ala.; pyrites, A. G. Woodruff, Garrisonville, Va.; zinc, Otto Ruhl, Joplin, Mo.; tungsten, Nelson Franklin, Denver, Colo.

Each of these members in turn is ex-officio chairman of a sub-committee, made up of representatives of the particular mineral named.

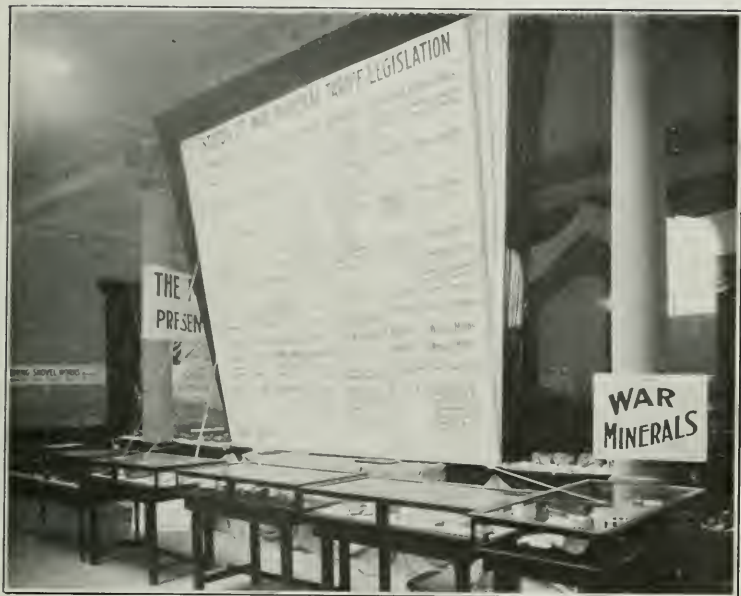
This is a strong organization and it is approaching the work it has before it with earnestness and confidence in the success of its ultimate outcome.

Statement Filed With Congress

The Interior Department through Alexander T. Vogelsang, as acting secretary, has filed with Congress the following statement, in connection with the administration of the War Minerals Relief Fund.

The first part of the letter is formal and consists merely in the recital of the original legislation, which is followed by this statement.

Immediately after the approval of the act, on March 2, 1919, the War Minerals Relief Commission, consisting of three members, was created to carry out the provisions of the act in behalf of the Secretary of the Interior. Messrs. John F. Shafroth, Philip N. Moore, and Martin D. Foster were appointed members of the commission. Mining engineers and ac-



WAR MINERALS EXHIBIT AT THE EXPOSITION HELD IN CONJUNCTION WITH ANNUAL CONVENTION OF THE AMERICAN MINING CONGRESS

countants were also detailed to examine and report upon the claims filed.

The following regulations were promulgated:

1. All claims must be in writing, contain a statement of the facts upon which losses are based, subscribed and sworn to before a notary public or clerk of a court of record.

2. All claims, together with a copy of each, must be filed in the office of the Secretary of the Interior, Washington, D. C., within three months from and after the approval of said act, i. e., on or before June 2, 1919.

3. Claims for losses can not be considered which relate to any other minerals.

4. There can be adjusted, liquidated, and paid only such net losses as have been suffered by any person, firm, or corporation by reason of producing, or preparing to produce, any of said minerals in compliance with the request or demand of the Department of the Interior, the War Industries Board, the War Trade Board, the Shipping Board, or the Emergency Fleet Corpora-

tion to supply the urgent needs of the nation in the prosecution of the war.

5. No claim can be allowed unless the expenditures made, or obligations incurred were subsequent to April 6, 1917, and prior to November 12, 1918, in a legitimate attempt to produce any of said minerals for the needs of the nation for the prosecution of the war.

6. No profits of any kind shall be included in any claim, and no investment for merely speculative purposes will be recognized.

A questionnaire accompanied by a letter containing the above regulations was transmitted to each claimant, who was instructed to set out fully the facts on which his claim was based. Each claimant was directed to return his questionnaire to the War Minerals Relief Commission, Interior Department Building, Washington, D. C., on or before June 2, 1919.

Within the period specified in the act, i. e., the period from its approval, March 2, 1919, to and including June 2, 1919, 1,203 claims were filed with the commission,

three-fourths of them being filed the last 10 days of the limit.

On June 8, 1919, the commission began a tour of western and southwestern states and held hearings in the several states. Twelve of the larger cities in that territory were visited by the commission, which granted hearings to all claimants who desired to be heard. During this tour a total of 442 hearings were held. Hearings have also been held, from time to time, in Washington, D. C.

All claims submitted under the act are considered carefully and when a determination on a given claim has been reached the commission makes a recommendation thereon, in the form of an opinion and finding, and copy of the recommendation is forwarded to the claimant. The claimant is given 20 days from the date of the receipt of the copy of the recommendation of the commission within which to comment upon or object to the recommendation. At the expiration of the 20-day period the recommendation of the commission and all papers relating to the claim are transmitted to the Secretary of the Interior, who, in turn examines and passes upon the claim, his decision being final.

In connection with the adjudication of the claims submitted to the commission it has been found necessary to obtain rulings from the Attorney General of the United States as to the interpretation of certain features of the act. One of the most important of these opinions so far rendered relates to the matter of Government "request or demand" as specified in the act. The Attorney General's opinion on this matter, dated July 1, 1919, is as follows:

"The words 'request' and 'demand' are both synonyms of the word 'ask.' A demand might perhaps be said to be a 'peremptory request.' The claims recognized by this section are those of persons who have suffered loss by 'producing or preparing to produce either manganese, chrome, pyrites, or tungsten in compliance with the request or demand of the Department of the Interior, the War Industries Board, the War Trade Board, the Shipping Board or the Emergency Fleet Corporation.' That is, one of the five governmental agencies must have asked (either by request or demand) the claimant to produce or to prepare to produce one of the four named minerals. The statute specifies the five agencies authorized to make request or demand for the production of minerals, specifies the minerals, and specifies that the production, or preparation for production, must have been 'in compliance with the request or demand' of one of the five agencies.

"The language used could hardly be more clear or allow less room for con-

struction. No claim based upon a general appeal or solicitation is authorized by it, but to come under the statute the claimant must have been asked specifically by either the Department of the Interior, the War Industries Board, the War Trade Board, the Shipping Board, or the Emergency Fleet Corporation to produce or prepare to produce one or more of the four named minerals."

In your inquiry you state:

"Many claims have been filed which appear to be based upon an asserted reliance upon appeals to the general public for the production of those minerals alleged to have appeared in the newspapers, etc.

"As I have stated above, the statute does not authorize the recognition of a claim based upon a general solicitation or appeal. This is apparent from the provision itself. It is also apparent from the history of the enactment (which is unnecessary to detail here) that it was intentionally framed so as to exclude such claims as are referred to by you."

The Senate provision had contained the words "published request" but the House of Representatives rejected the same in two conference reports. The Committee on Mines and Mining of the House in order to get some measure through, recommended the measure as it became a law. Congressman Foster, who was then chairman of the Committee on Mines and Mining, in moving the measure as it passed, said:

"It also throws around the amendment safeguards for the Government, providing that only upon the personal request or demand of the government agencies could they be paid. . . . No account is taken of newspaper articles or of every fellow who went out and dug a hole in the ground, but he must be able to show that he really had the minerals there; not a prospecting claim. Nothing of that kind, but only the actual mineral that he went out and secured for his Government, when his Government asked him to do it, when his Government went to him personally and requested or demanded that he do it."

In accordance with this opinion it appears from the facts submitted in papers filed by the claimants in support of their claims that nearly half of the claims on file will have to be disallowed.

As regards the claims considered by the commission up to November 29, 1919, disallowance of 442 has actually been recommended, principally on the ground of "no Government request or demand," as specified in the act as interpreted by the Attorney General. Some of the disallowances recommended are by reason of the fact that property represented by the claims did not contain ore in sufficient quantity to

be of commercial importance. The provision of the act is as follows:

"That no claim shall be allowed or paid by said secretary unless it shall appear to the satisfaction of the said secretary that the expenditures so made or obligations so incurred by the claimant were made in good faith for or upon property which contained either manganese, chrome, pyrites, or tungsten in sufficient quantities to be of commercial importance."

An opinion of the Acting Attorney General, dated September 3, 1919, relates specifically to a claim submitted for losses sustained in the production of ferromanganese. This opinion has an important bearing on several other large claims of a somewhat similar nature. The Acting Attorney General said:

"My examination of this subject has led me to conclude that producers of ferromanganese do not come within the purview of the act of March 2, 1919, and are, therefore, not entitled to reimbursement for losses incurred in its manufacture."

Up to November 29, 1919, besides the 442 claims mentioned above as having been recommended for disallowance, the commission had recommended partial allowance of 30 claims, the amount claimed and the amount recommended for allowance being set forth in the tabulation following. The relative large proportion of disallowances up to the present time should not be taken as an index for the future, for several reasons:

First. The commission naturally eliminated initially, as far as possible, claims which on their face admitted no request or demand.

Second. Some of the largest and most complex claims, requiring establishment of principles, demanded an excessive amount of time and study.

Third. The examinations by engineers and auditors of most of the claims on which some award must be made are not yet complete.

As is shown in the tabulation following, in the 30 claims upon which the commission has recommended that awards be made a total of \$1,399,112.72 was claimed; the commission's recommendations were for \$418,502.80, or about 30 per cent of the amount claimed. It can not be foretold at this time whether this will be the average allowance for all the allowable claims, but it is evident that the appropriation of \$8,500,000 will be ample for the adjustment of all the valid claims.

The administrative expenses of the commission up to November 29, 1919, were \$147,431.25. These consisted of salaries and expenses of the commissioners, the chief clerk and his office force, the chief mining engineer, his office force and field engineers under his supervision, the chief auditor,

his office force and field auditors and examiners of cases. If this amount and the amount recommended to be allowed claimants be subtracted from the appropriation, the unexpended balance remaining to the credit of the appropriation on November 29, 1919, is \$7,934,065.95.

The following tabulation summarizes the work and the expenditures of the commission up to November 29, 1919:

Total number of claims originally filed.....	1,203
Number recommended for action to Nov. 29, 1919.....	472
Number of claims remaining to be considered.....	731
Total amount of all claims.....	\$16,655,481.91
Amounts of the 472 claims already considered.....	\$3,345,186.05
Amount of claims remaining to be considered.....	\$13,309,994.99
Total number of claims recommended for disallowance.....	442
Amount claimed in those disallowed.....	\$1,946,374.23
Total number of claims recommended for partial allowance.....	30
Amount claimed in those partially allowed.....	\$1,399,112.72
Amount recommended to be allowed.....	\$418,502.79

RECAPITULATION

Amount of appropriation.....	\$8,500,000.00
Amount of awards recommended.....	\$418,502.79
Administrative expenses to Nov. 29, 1919.....	\$147,431.25
Balance.....	\$7,934,065.96

Respectfully,

ALEXANDER T. VOGELSANG,
Acting Secretary.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

Silver Disappears in France

European nations are experiencing trouble with their subsidiary currency. In France hoarding of small silver change has resulted in the withdrawal from circulation of such an amount of metallic currency that a serious problem has beset the government, in spite of the fact that more silver coinage has been minted in the past five years than for over a decade. Depreciation of French exchange and speculation are reasons for this situation. Exportation of silver coins and their melting into bullion for manufacturing purposes seems to be prevalent. Normally France produces only about 0.2 per cent of the world's production of silver and must rely for practically all its supply on other countries.—Bureau of Mines.

G. F. LOUGHLIN NEW HEAD MINERALS RESOURCE DIVISION

G. F. Loughlin has been appointed chief of the Mineral Resources Division of the U. S. Geological Survey. He will begin his new duties February 1.

Production of gold and silver in the United States during the calendar year 1919

The Bureau of the Mint and the Geological Survey have issued the following joint statement as to the preliminary estimate of the production of gold and silver in the United States during the calendar year 1919.

State or Territory	Gold		Silver	
	Fine ounces	Value	Fine ounces	Value ¹
Alaska.....	437,131	\$9,036,300	1,072,137	\$1,201,705
Arizona.....	202,038	4,176,500	4,296,769	4,816,033
California.....	840,758	17,380,000	1,204,004	1,349,508
Colorado.....	470,998	9,736,400	6,044,911	6,775,438
Georgia.....	48	1,000	10	11
Idaho.....	34,365	710,400	6,042,016	6,772,194
Illinois.....	0	0	2,393	2,682
Maine.....	5	100	4,142	4,643
Michigan.....	0	0	375,284	420,637
Missouri.....	5	100	59,460	66,646
Montana.....	119,085	2,461,700	14,940,527	16,746,090
Nevada.....	230,004	4,754,600	7,312,454	8,196,164
New Hampshire.....	0	0	659	739
New Mexico.....	28,817	595,700	712,791	798,932
North Carolina.....	48	1,000	49	55
Oregon.....	51,848	1,071,800	223,578	250,597
Philippine Islands.....	39,962	826,100	14,392	16,131
Pennsylvania.....	0	0	78	87
South Carolina.....	5	100	4	4
South Dakota.....	254,820	5,267,600	122,164	136,928
Tennessee.....	256	5,300	93,087	104,337
Texas.....	53	1,100	540,239	605,527
Utah.....	104,137	2,152,700	11,906,152	13,345,010
Vermont.....	10	200	1,819	2,039
Virginia.....	0	0	8	9
Washington.....	14,987	309,800	316,028	354,220
Wyoming.....	15	300	41	46
	2,829,395	\$58,488,800	55,285,196	\$61,966,412

Compared with 1918 production these figures indicate reduction in gold output of \$10,157,900, and in silver output 12,524,943 ounces; compared with 1917 production the reductions are—gold, \$25,261,900, silver 16,455,166 ounces.

¹ Valued at the average New York price of fine silver, \$1.12085 per ounce.

Treasury Department,
Bureau of the Mint,
Jan. 3, 1920.

Fuel Oil Production Greater

In the first nine months of 1919 the production of fuel oil was 21 per cent larger than during the same time in 1918. Exports and shipments of fuel oil, during this period, were decreased 26 per cent, due to the smaller demand of our Allies. Stocks of this oil at the refineries on September 30, 1919, were 48 per cent greater than on the same date in 1918. Domestic consumption increased 29 per cent in 1919. This is probably due to the new consumers of fuel oil for manufacturing purposes rather than to increased industrial activities.—Bureau of Mines.

Chrysotile Asbestos in Virginia

A series of outcrops of massive serpentine occur about a mile and a half southwest of Great Falls, Fairfax County, Virginia. The distribution of the outcrops indicates that the formation is at least 100 acres in extent. On the farm of Matthew Dickie, a short distance north of the farm buildings, numerous outcrops appear over an area of several acres. In practically every outcrop veins of cross-fiber asbestos are to be found. The veins are very irregular and vary in width from one-eighth of an inch to mere hairlines.—Bureau of Mines.

WRONG TO RELY ON MEXICO FOR OUR MAGNESITE, ADAMS SAYS

R. D. Adams, representing the California Magnesite Producers, was among those who appeared before the Senate Committee. His presence on the stand led to the following colloquy:

Mr. Adams. I represent the California magnesite producers—those who are actually mining the material—and am personally interested in a number of California properties. Incidentally, I think, was one of the first pioneers in the magnesite industry in California. I have also at various times visited or had some connection with nearly all of the magnesite properties on the Pacific coast.

Senator Watson. The statement in the hearings before the House committee as to the number of these properties in both California and Washington is correct?

Mr. Adams. Yes, sir. I think the estimates of the Geological Survey as to the reserve tonnage are, if anything, moderate. Of course, from their standpoint, they simply estimated really what is probable ore. Estimates have been made by the parties owning properties there, but they have simply made estimates of what was reasonably certain ore and not the developments of the future.

In regard to various points as to the cost and all other things pertaining to that, I think Mr. Bishop has covered that so fully and completely that it would be a waste of time for me to touch on that. We, in California, are in full accord with all of the statements that have been made.

Senator Watson. Is there any difference in the cost of producing this material in California and in Washington?

Mr. Adams. Yes, sir, in California, I think we have a higher cost. I think our cost runs a little higher than in Washington.

Senator Watson. Why?

Mr. Adams. For two reasons, one being that in California the deposits there in most of the properties occur as veins in serpentine or as large lenses in serpentine. In Washington it is more or less of a quarry proposition on a large scale, and our mining costs are higher for that reason. Also our transportation costs, as a rule, are higher, because some of our best properties lie back some distance from the railroad. Consequently we have a little heavier transportation cost.

I think one of the important things in relation to magnesite is in its relation to possible wars in the future. When this present war broke, as Mr. Bishop stated, there was one mine in California producing a little over 9,000 tons a year. When the necessity arose representatives of the refractory companies came west and called for magnesite. In two years' time we had

increased the production of magnesite in California from around 9,000 tons, roughly speaking, to 200,000 tons, which meant the opening up of large properties and installing heavy equipment in many places. Incidentally, in that connection, there was no attempt on the part of the California operators to overcharge or take advantage of that situation to charge higher prices, but our first costs were, of course, high.

Senator Watson. When you say "refractory companies," what do you mean by that? What do you mean by "refractory?"

Mr. Adams. Refractory is the material that is used in the steel trade. They call it refractory because it is heat resisting.

Senator Thomas. The companies are not refractory, but their product is.

Mr. Adams. I might say that some of the companies are also refractory.

We all know what experience we had in connection with the last war, and in spite of the League of Nations and other things there is a possibility of war at any time.

Senator Thomas. Why do you say that? We would like to have some enlightenment on that.

Mr. Bishop. Mr. Adams was a captain in the last war. He went over there and fought after he developed these magnesite mines.

Mr. Adams. I went over in the Canadian service overseas.

Senator Thomas. I am inclined to agree with you; I do not know whether Senator Watson does or not.

Senator Watson. I am leaning in that direction.

Mr. Adams. Considering the close connections existing between Germany, Austria Hungary, and Mexico, and realizing the fact that Germany and Austria will never be in any position except that of hating us, in case of trouble with Mexico, it would only need a word to Austria to stop all shipments of magnesite to this country. It would not be a case of any interruption of sea traffic, but there would be an embargo or duty or something. Then we would be in the same position again with all mines shut down and equipment wrecked, and I do not think that is a fair situation for the country or for the magnesite producers.

"Gas" Enough for Only 48 Days

Statistics of the refining industry, based on the first six months' consumption, indicate that the stock of gasoline on hand at the refineries, August 31, was sufficient to last 48 days, if there were no new production and the regular reasonable demand continued.—Bureau of Mines.

CONSERVATION OF NATURAL GAS TO BE DISCUSSED HERE

A public conference of governors, public utility commissioners, state geologists, home economic experts, natural gas companies, owners and officials, and appliance manufacturers has been called by Secretary of the Interior Lane to meet under the auspices of the Bureau of Mines at the Interior Department Building, Washington, January 15, to discuss the waste of natural gas in this country, both by consumers and gas companies. As a result of the work of the experts of the bureau on this question, it is declared that in using natural gas the consumers, through faulty appliances, obtain an efficiency of about 13 per cent from a gas cook-stove, 25 per cent from a house-heating furnace, and 10 per cent from a hot-water heater, although in good practice these efficiencies can be trebled.

In a statement as to purposes of the conference Dr. Van. H. Manning, director of the Bureau of Mines, said: "Domestic consumers waste more than 80 per cent of the gas received. The efficiency of most cooking and heating appliances could be trebled. By making natural gas worth saving the 2,400,000 domestic consumers in the United States could get the same cooking and heating service with one-third of the gas; that is, make one foot of gas do the work of three and greatly delay the day when the present supplies will be exhausted and consumers must go back to more expensive manufactured gas."

"It is time for the public to take a new viewpoint on the waste of natural gas. It is time for the domestic consumer to realize that his duty is not done when he cries out against the flagrant wastes occurring in the gas fields and demands of his Government that such wastes be abated; he must realize that he himself is likewise at fault and that it is time for him to set his own house in order. Furthermore, the domestic consumer must realize that these wastes do not concern him alone, and consequently he has not the right, merely because he pays for the gas, to employ it in any manner that pleases him, no matter how wasteful. Natural gas is a natural resource in which every inhabitant of this country has an equity. Those who waste the gas do so at the expense of those who would use it efficiently. Natural gas is not replaced by nature, and in comparison with the life of the nation the duration of the supply will be brief."

"The public has a right, therefore, to demand that this natural asset be used to the greatest advantage of all and that no one be allowed to waste it. Natural gas in each city is a community asset and every consumer has a right to demand that waste-

ful use shall be prohibited in the interest of the public service. This is particularly important during cold spells in the winter when the supply is insufficient and actual suffering may occur. Clearly, it is not right that any consumer suffer at such times because of the extravagance and waste of other consumers, even though they are willing to pay for the gas wasted. Nor can the citizens justify demands for better service from the public utilities without making provision to correct abuses in their own homes. It must be recognized that the public has been and is today just as much a party to the crime of wasting this natural resource as are the companies that produce and market it."

Metal Mining in Idaho

The value of the gold, silver, copper, lead, and zinc mined in Idaho in 1919, according to the estimate of C. N. Gerry, of the United States Geological Survey, Department of the Interior, was about \$19,376,000, a decrease of \$17,146,000 from the value in 1918. The decrease in the quantity of all the metals produced but gold, as well as in the total value of the output, was decidedly great, and was due, in part, to the difficulty in marketing copper, lead, and zinc, to the lower prices for these metals, and to the high cost of labor and supplies. In August a labor strike in the Coeur d'Alene region prevented shipments from many of the large mines near Wallace. Fortunately labor troubles failed to close the mines near Kellogg, and the Bunker Hill smelter and refinery at Bradley were active throughout the year, though not running at full capacity.

Oregon Metal Production

A preliminary estimate of the production of metals in Oregon in 1919, compiled by Charles G. Yale, of the San Francisco office of the United States Geological Survey, Department of the Interior, shows a decrease in the gold and lead produced, but an increase in the silver and copper. According to the mines report the output of gold in 1918 was \$1,270,465 and the estimated output in 1919 is \$1,072,661, a decrease of about \$197,804. The output of silver in 1918 was 107,323 fine ounces, valued at \$107,323; in 1919 it was 211,523 fine ounces, valued at \$234,790. The output of copper in 1918 was 2,451,016 pounds, valued at \$605,401; in 1919 it was 2,638,714 pounds, valued at \$501,355, an increase in quantity of 187,698 pounds and a decrease in value of \$104,046. The output of lead in 1918 was 10,601 pounds, valued at \$753; the output in 1919 was 2,000 pounds, valued at \$114, a decrease in quantity of 8,601 pounds and in value of \$639.

BUREAU OF MINES CONDUCTING ELEVEN EXPERIMENT STATIONS

In connection with the work of the Bureau of Mines, Department of the Interior, the bureau is now conducting eleven mining experiment stations, located in the various mining centers of the country, and bending their energies toward the special mining problems that are local to their part of the country. So great has been the demand for knowledge concerning the character of the work undertaken at these various mining stations and its general relation to the mining industry, the bureau has issued a bulletin describing the work of the stations.

Dr. Van H. Manning, director of the bureau, sketches the work of the different stations as follows:

"The station at Columbus, Ohio, situated at a clay-working center is employed mostly on ceramic problems. In this country there are about 4,000 firms manufacturing clay products, including brick, tile, sewer pipe, conduits, hollow blocks, architectural terra cotta, porcelain, earthenware, china, and art pottery. The amount invested in these industries is approximately \$375,000,000 and the value of the products exceeds \$208,000,000 annually.

"The station at Bartlesville, Okla., is investigating problems that arise in the proper utilization of oil and gas resources, such as elimination of waste of oil and natural gas, improvements in drilling and casing wells, prevention of water troubles at wells, and of waste in storing and refining petroleum, and the recovery of gasoline from natural gas.

"What the Bureau of Mines has done for the great coal-mining industry, chiefly through investigations at the experiment station at Pittsburgh, Pa., has been published in numerous reports issued by the bureau. Some of the more important accomplishments have been the development and introduction of permissible explosives for use in gaseous mines, the training of thousands of coal miners in mine-rescue and first-aid work, and the conducting of combustion investigations, aimed at increased efficiency in the burning of coal and the effective utilization of our vast deposits of lignite and low-grade coal.

"How vast are the deposits of low-grade ores being made available through the experiment stations is shown by the work assigned to the station at Minneapolis, Minn. The primary purpose of this station is to devise methods of utilizing low-grade iron ores. It has been estimated that the reserves of low-grade magnetic iron ores in the State of Minnesota alone amounts to some forty billion tons, but until recently those ores have been untouched because no process of treating

them profitably has been devised. Even now only one company is attempting to utilize them. The Minneapolis station has already demonstrated that one process for utilizing the great deposits of manganese-ferous iron ore on the Cuyuna Range is metallurgically possible.

"Work such as this not only stimulates mineral production and helps to make available tremendous resources that are now unused, but it increases the total wealth of the nation and ultimately benefits every citizen.

"The mining industry is so related to commerce and manufacture that the importance of publishing the results of technical investigations of mining problems is becoming more and more evident. The miner and the mine operator are integral parts of the industrial system of the country, and each needs to keep in close touch with what the Government is doing through the mining experiment stations of the Bureau of Mines.

"In the West vast quantities of low-grade complex ores will become available as soon as commercially feasible processes are devised. Many of the problems involved, which are being attacked at the Golden, Colo., station; the Salt Lake City, Utah, station; the Seattle, Wash., station; the Tucson, Ariz., station, and the Berkeley, Calif., station, are of such a nature that the small operator cannot afford to attack them, and the large operator finds them outside his field. Yet the solution of any one of them may add greatly to the available resources of the country and may result in establishing a new industry that will build up the district in which it is situated. Already these stations, although young, have witnessed such results.

"Today, through the efforts of men at the Golden station there is an American radium industry. Formerly the low-grade radium-bearing ore was wasted, the best of the ore was bought by foreign concerns at ruinously low prices, and the radium was shipped back to this country at excessively high prices.

"The Salt Lake City station has devised novel methods of treating certain low-grade and complex ores of lead and zinc. These methods show a large saving of metal over methods hitherto employed, and have made available ores that other methods could not treat profitably.

"The Seattle station is busy with the beneficiation of the low-grade ores of the Northwest, and the mining and utilization of the coals of the Pacific States; the Tucson station is working on the beneficiation of low-grade copper ores; and the Berkeley station has shown how losses may be reduced at quicksilver plants and how methods at those plants can be improved.

"In the conduct of these investigations the bureau seeks and is obtaining the co-operation of the mine operators. At more than a dozen mills in the West engineers from the stations are working directly with the mill men on various problems, and the results they already have obtained more than warrant the existence of the stations. Success in solving one problem may easily be worth millions to the country. Mining men are using these stations more and more freely as they realize that the Government maintains these stations to help them, and that the difficulties of the operators, both large and small, will receive sympathetic consideration and such aid as the stations can give."

Copies of this bulletin may be obtained free of charge by addressing the Director of the Bureau of Mines, Washington, D. C.

COPPER LEADS PRODUCTION DECLINE OF METALS IN ARIZONA

The output of gold, silver, copper, lead, and zinc from mines in Arizona in 1919, according to the estimate of Victor C. Heikes, of the United States Geological Survey, Department of the Interior, had a total value of about \$108,707,000, a decrease of \$93,427,880.

There was a decrease in both the quantity and value of all these metals, but the largest decrease was that in copper. During the first part of the year, there was a marked curtailment of output, and in the Verde district, labor troubles closed the mines for nearly four months. During the last three months of the year many of the large companies again curtailed production as a result of market conditions.

The production of gold from mines in Arizona decreased from \$5,435,027 in 1918 to about \$4,231,000 in 1919. This decrease, which amounted to \$1,204,000, was a result of the general curtailment in the production of copper ore. More than half the output of gold from Arizona came from the gold ores of the San Francisco district of Mohave County, though there was a decrease from this source as well as from the copper ores. The United Eastern Co. remained the largest producer of gold in the state, and the Tom Reed Co. continued its large output. The Copper Chief mine, in the Verde district, and the Gold Road mine, at Oatman, were idle.

The mine output of silver decreased from 6,686,152 ounces in 1918 to about 4,927,000 ounces in 1919. In spite of the increase in the price of silver the value of the output decreased from \$6,686,152 to about \$5,479,800.

The largest producers of silver were the Calumet & Arizona, Copper Queen, United Verde, Magma, and United Verde Extension

mines. Besides the copper mines, the largest producers of silver were the Bunker Hill mine at Tombstone and the Commonwealth mine at Pearce.

The mine output of copper decreased from 764,855,874 pounds in 1918 to about 522,000,000 in 1919, a decrease of nearly 32 per cent. The value of the output decreased from \$188,919,401 in 1918 to about \$98,296,000 in 1919, and the average price of copper decreased from 24.7 cents to about 18.83 cents a pound. There was a decrease in the output of each of the smelting plants in the state, except the United Verde Extension smelter at Verde. At Miami the output of the International plant was close to the record of 1918. The Shannon smelter at Clifton was closed in January, and the plant at Sasco was closed early in the year. At Ajo the New Cornelia Copper Co. continued the leaching of copper ore, but its output was reduced about 20 per cent. In the Warren district development work opened extensive ore bodies on the Denn Arizona ground and on leases on Copper Queen ground.

The mine production of lead in Arizona decreased from 12,503,689 pounds in 1918 to about 10,000,000 pounds in 1919. The value of the output decreased from \$887,762, to about \$575,000. Large shipments of lead were made from the Shattuck mine, in the Warren district, in spite of the delay caused by a fire on the 800-foot level in March. In Pinal County the property of the Ray Silver-Lead Co. produced considerable lead ore, though less than in 1918.

The output of recoverable zinc decreased from 2,269,643 pounds in 1918 to about \$1,717,000 pounds in 1919. The value decreased from \$206,538 to about \$125,700. The Arizona Hillside Mining Co., in Yavapai County, was the only important producer.

Dividends from Arizona mining companies during the first eleven months of 1919 amounted to about \$19,841,000, exclusive of those of the Phelps Dodge Corporation, which also operates mines in Mexico and New Mexico. Including the dividends of the Phelps Dodge Corporation the total was nearly \$26,816,000. The companies that paid dividends were the Miami, Inspiration, Iron Cap, Shattuck, United Eastern, United Verde, United Verde Extension, Arizona Copper, Calumet & Arizona, Magma, Ray Consolidated, Arizona Binghamton, and the Phelps Dodge Corporation.

May Check Coin Hoarding

Great Britain has taken steps to make it a statutory offense to hoard British silver coins, to buy or sell them above their face value and to melt or break up the silver currency. Export of British silver coin is already prohibited.—Bureau of Mines.

CONSERVATION OF TIMBER NECESSARY TO PROFITABLE MINING

BY KURT C. BARTH

The mining industry evidently still lacks proper appreciation of the very important part which timber plays in the production of ores and coal. In spite of strenuous efforts to awaken those responsible to the necessity of reducing the very costly waste caused by preventable decay of structural timber, the correspondence in the mining press indicates a woeful lack of knowledge of the fundamental factors involved.

REDUCTION IN MAINTENANCE IMPERATIVE

In a July issue of a coal journal a mine superintendent complains of the "growing scarcity of timber in central Pennsylvania." Ten years, and more, ago government representatives plead with the operators in that particular territory to take steps to conserve their timber supply, and to increase its serviceability by reducing the destruction wrought by decay. The same correspondent suggests costly steel and concrete construction of a quasi permanent character as inevitable. Undoubtedly this is a solution, but it is the kind that seemingly occurs to the average mine operator because he has not been schooled to rigid economy. The problem in mine construction is not permanency regardless of cost, rather it is how to reduce maintenance to the absolute minimum in order to decrease the cost of production sufficiently to earn a reasonable profit. The consumer cannot, and will not continue to pay for waste and inefficiency. In this respect wood preservation, to be more explicit, creosoting of timber, is a means of obtaining a considerable saving in maintenance expenditures.

A COMMON OCCURRENCE

About a year ago a survey was made to determine the most economical construction for lining an upcast shaft of an iron mine. Conditions were most favorable to the development of decay in timber; in fact untreated mixed oak and fir would not give over four years service. Four types of lining were under consideration, (a) reinforced concrete, (b) steel frame and concrete lath, (c) steel frame and creosoted wood lath, (d) all creosoted wood. The controlling factor was a maximum period of mechanical usefulness of fifteen years. The combination of steel frame and creosoted wood lath indicated the lowest annual cost, *i. e.*, proved to be the most economical, and was consequently recommended by the consulting engineer. Nevertheless, the next to the most costly construction was decided upon. Probably the operators were influenced by the exceptional prosperity enjoyed at that time. Looking into the future,

such practice may increase the cost of production over that of more economically operated properties just enough to prove disastrous.

SPECIES OF WOOD USED IN MINES

Another correspondent in a recent issue of a mining paper remarks that spruce, hickory and maple are desirable but rot too quickly; also that "white" spruce, cottonwood, balsam, poplar, etc., are of no value having less strength and subject to destruction by decay within one year when employed underground. The former species will give very economical service when properly creosoted, and likewise will the latter, if treated, be useful and give long service where great strength is not required. It is also remarked that oak has been in place in shafts for 30 years without showing signs of decay. Under other conditions oak has been known to rot and require replacement in from 4 to 6 years. These experiences are all true and can be verified, as well as denied by voluminous data based on actual experience.

Although it may seem to be a subject highly confused by contradictory evidence, that is not the case, as the conditions favorable or unfavorable to decay vary with each shaft, stop and working. It is, therefore, necessary to apply the principles of timber utilization and preservation to each property individually, and in conformity to the existing conditions regardless, to a considerable degree, of experiences with other locations.

SELECTION OF TIMBER

The selection of timber for underground uses should be controlled by: (1) its strength as compared with the load to be carried; (2) its suitability with regard to size, availability and cost, and, (3) its susceptibility to treatment, that is, absorption of creosote oil. Durability need be given consideration only with regard to the natural life for situations where that is equal to, or greater than the mechanical life, and where treatment would not be warranted. In all other instances creosoting will equalize the natural and mechanical life, that is, increase the period of service rendered by the respective timber equal to the period of mechanical usefulness. In other words, red oak, and other mixed oaks, gum, beech, maple, hickory, pine (including southern yellow and loblolly, western yellow and white, northern white, norway, etc.) hemlock, balsam, fir, spruce, and numerous other species, when properly creosoted will often give twice, and in some cases three the service they do untreated, either underground or in surface structures. The object of

wood preservation is to make useful the so-called non-durable species of wood.

DETERMINING ADVISABILITY OF TREATMENT

The first step is to ascertain the average life untreated of the species selected, and the possible period of mechanical usefulness, under the conditions existing and liable to develop in the particular mine under consideration. If there is a difference then creosoting is advisable. The method of treatment is largely controlled by the investment permissible, that is the percentage of increased life necessary to equal the mechanical life must determine whether the preservative treatment shall be of a temporary or permanent nature. If, for instance, the average natural life untreated is four years, and the working in which the timber is to be placed, has a period of usefulness of only five years, then the mechanical life of the timber would be five years and the increased life desired one year. The cost of treatment must be low enough to show a profit, and the method need not be of greater efficiency than required to obtain one year's increased life of the timber. The annual cost of creosoted timber must be sufficiently less than the annual cost of untreated timber, under equal conditions, to warrant the cost and trouble of treatment. With regard to mine construction, both underground and surface, this difference, or saving very often equals 100 per cent.

OBTAINING BEST RESULTS FROM CREOSOTING

The best results are obtained when wood preservation is adopted as a policy and carefully worked out to conform to the conditions encountered in each property. This does not always require an individual engineering survey, but it should not be undertaken without the advice of experts. It is true that these are difficult to find. There are very few independent engineers devoting their time to wood preservation, which has made it necessary for the manufacturer of creosote oil to offer technical service to assist prospective consumers of wood preservatives in finding the proper solution of these problems related to this subject, and thus creating a market where the use of creosote is justified.

The preparatory steps are the most important and must be given the greatest attention. The entire procedure is divided into preparation of the timber for creosoting, and the treatment, viz:

(1) Conditioning; including grading, peeling, seasoning, inspection.

(2) Manufacturing; framing, boring of all bolt holes, cutting of tenons and mortises, and otherwise preparing for placing.

(3) Treatment; requiring rigid adherence to recommendations for application of method selected, and such standard specifications for procedure and preservative as apply.

(4) Handling the treated timber to insure protection of creosoted surfaces from abrasion or injury. Where that occurs, or additional



CREOSOTED WOOD BLOCK 40 YEARS SERVICE

framing and drilling of holes is necessary, two brush paint coats of creosote oil should be applied to all surfaces where untreated wood is exposed.

CHANGES IN TIMBER POLICY REQUIRED

The first two conditions necessarily require a complete change in the timber purchasing methods usually in vogue. Green timber cannot be successfully creosoted by the methods generally available to mines, namely, non-pressure treatments. That means a survey must be made of the available local supply and its usefulness. Orders must be placed early enough to permit cutting, and seasoning for an average of six months before it is ready to creosote. Lumber purchased from distant markets must be received so that it may be piled in yards and seasoned for an average of three months before treatment. In other words, instead of cutting the timber out of the woods one day and using it the next, timber requirements must be anticipated from six months to a year.

It is natural for the custom-ridden to respond that it is impossible to meet these requirements. The contrary has been demonstrated. Further, whether the timber is creosoted or not the policy outlined would save the average mine more than enough to warrant overcoming the largely imaginary difficulties. Seasoned timber will always give the best service.

Timber should be peeled immediately after cutting, and not lay with the bark on for months until insects have made themselves comfortably at home underneath, and commenced their destructive activities. After peeling, the timber should be piled on high ground, on skids at



STORING TIES AT DERING COAL CO. MINE No. 8

least twelve inches above the ground, and in such a manner that air can freely circulate about each stick. Oak and similar hardwoods can be given protection against severe checking while seasoning by applying coal-tar pitch or some viscous tar paint (roof coating) to the ends.

STANDARD PRESERVATIVE TREATMENTS

The standard processes of treatment are divided into two groups. Group A. Pressure Processes include: (1) Full cell treatments; that is, impregnation of timber to a predetermined extent, leaving the wood cells full of preservative, applied in retorts or cylinders under artificial pressure, with (a) creosote oil, (b) zinc chloride, (c) solution of zinc chloride and creosote. (2) Empty cell treatments; that is, impregnation of timber to a predetermined extent, in retorts or cylinders under high artificial pressure, and removal of the surplus preservative, leaving the wood cell-walls coated and the cells more or less empty.

Group B. Non-pressure processes include: (1) The open tank process; that is, the impregnation of timber in open tanks, or vats, under atmospheric pressure only, by complete submersion for varying periods in alternate hot and cold (or cooling) baths of refined coal tar creosote oil. (2) Surface treatments; that is, several successive applications of refined coal-tar creosote oil to timber at points of contact, or over the entire surfaces by (a) brush treatments—two or more paint coats; (b) properly designed spraying machines; (c) dipping or short immersions in the heated creosote.

A further grouping will divide all treatments into two classes: (1) Impregnation processes, including both pressure and non-pressure methods by which an adequate penetration of the preservative is obtained. (2) Surface treatments, the purpose of which is to retard decay at certain points exposed to a greater degree than are other portions.

Each method of treatment enumerated has definite limitations and advantages, and the selection of one must depend strictly upon

meeting the requirements of the case in hand as may be indicated by an analysis of the governing conditions.

Sawed timbers which when in service are exposed to severe mechanical wear must be impregnated with the preservative to an adequate depth in order to present an unbroken barrier to attack by fungous growths should abrasions and ordinary checks occur.

Round timbers, having an ordinary sap ring, when properly seasoned, can usually be satisfactorily treated by the open tank process, as the sap wood of practically all commercial species is readily impregnated.

Impregnation processes are always advisable when the maximum increase in the natural life of structural wood is desired, and in every instance where non-durable species of wood are employed. Timber surface structures in which durable grades are employed should be given at least a surface treatment at points of contact during construction.

PRESERVATIVE

During nearly four-score years of actual experience in this country it has been conclusively demonstrated that coal-tar creosote oil is the most efficient wood preservative. There is no record of the failure of properly creosoted wood. Recognition is not denied mineral salts, such as zinc chloride, for these also are undoubtedly very effective in protecting wood from decay under certain favorable conditions. As far as mine construction is concerned available service records dictate the choice of coal-tar creosote oil.

The grade of creosote to be recommended depends upon the process used. For pressure treatments standard specifications exist controlling procedure and the preservative. These are obtainable by referring to the proceedings of the American Wood Preservers Association. For non-pressure treatments, which, as previously indicated, are most suitable to the conditions of most mines, there also exists a standard, namely, pure refined coal-tar creosote oil conforming to the specification adopted and issued by the U. S. Shipping board Emergency Fleet Corporation in 1917 (G-174-A-1). Briefly, refined creosote is necessary for the Open Tank Process and Surface Treatments as the grades suitable for Pressure Processes present physical obstacles, because of solidification of crystals and evaporation, causing considerable trouble as well as actual loss. Refined coal-tar creosote oil has simply been made physically fit for the purpose. The existence of this standard permits purchase on specification, or from reputable manufacturers whose trade-mark guarantees a uniform product conforming to the specification referred to. It is very important that the consumer be convinced that the preservative he is using conforms to this standard, otherwise he has little, if any assurance that the result will be as expected.

WOOD PRESERVATION OF INCREASING IMPORTANCE

Conditions affecting production costs, and profits are not as favorable now, nor will they be in the future as they have been in the past. Conservation in every industry, of all materials and resources is the paramount need, which in the final analysis, and in the practical application, simply means conservation of human energy, because it costs money, that is, elimination of all waste labor; conservation of materials, because they also cost money, and their waste increases the overhead expense, hence the cost of production, and in equal proportion reduces the margin of profit. Therefore the protection of structural wood from decay by properly creosoting, because it does these things, is, to the extent that it accomplishes a net saving in the cost of production, the means of continuing the profitability of mining.

LOWER PRICES CAUSE FALL IN MONTANA'S METAL OUTPUT

The value of the gold, silver, copper, lead, and zinc mined in Montana in 1919, according to the estimate of C. N. Gerry, of the United States Geological Survey, Department of the Interior, was more than \$66,307,000, a decrease of about \$55,098,000, as compared with the value for 1918. All the metals but lead showed a decided decrease. On account of the low prices for copper, lead, and zinc, the mines at Butte, soon after the first of the year, reduced their output to about 60 per cent of the normal. Production from the mines was not seriously affected by strikes, though there was some labor trouble in February.

The value of the gold output fell from \$3,104,764 in 1918 to about \$2,272,000 in 1919, a decrease of nearly 27 per cent. The main decrease was the output of gold derived from copper ores; there were slight decreases of gold derived from iron ore, siliceous ore, and from dredging. The Barnes King Mining Co., operating in Fergus and Lewis and Clark Counties, produced the most gold from siliceous ores; the Southern Cross mine, in Deer Lodge County, produced much less gold.

The mine output of silver decreased from 16,797,479 ounces in 1918 to about 13,218,000 ounces in 1919, and the value of the output decreased from \$16,797,479 to about \$14,768,000. In 1918 and 1919 Montana was the leading silver producer of the United States. In 1919, in past years, most of this silver came from copper ores, but a large part of the increase consisted of residues from zinc ores, both those smelted in the East and those treated in the electrolytic plant at Great Falls, Mont. The principal producers of silver were the Anaconda Copper Mining Co., Butte & Superior, Elm Orlu, North Butte, East Butte, Davis Daly, Butte Reduction Works tailing dump, and the Granite-Bimetallic mine, at Philipsburg.

The output of copper decreased from 323,174,850 pounds in 1918 to about 180,246,000 pounds in 1919. This represents a decrease of 142,928,000 pounds in quantity and \$45,884,000 in value. The average monthly production of the smelting plants or the Anaconda Copper Co., at Great Falls and Anaconda, according to published statements, was nearly 13,000,000 pounds of copper, as against 24,500,000 pounds in 1918. The Pittsmtont plant of the East Butte Co. produced more than 1,500,000 pounds a month, instead of 2,000,000 pounds, as in 1918. In addition to the mines of the Anaconda and East Butte companies, the North Butte, Davis Daly, Butte Reduction Works dump, Butte Ramsdall, Elm Orlu, Butte Duluth, Butte & Superior, Tuolumne, and Bullwhacker produced considerable copper.

The mine production of lead increased from 37,135,875 pounds in 1918 to about 42,163,000 pounds in 1919, but the value of the output decreased from \$2,636,647 to about \$2,411,737. A large part of the lead was obtained from the lead-zinc ores of the Butte district. The Snow Storm mine, at Troy, Lincoln County, and the Angelica mine, in Jefferson County, were also notable contributors. By-products from the electrolytic zinc plant at Great Falls have added greatly to the totals of both silver and lead. The lead smelter of the American Smelting & Refining Co., at East Helena, was active on ores and concentrates, most of them shipped from Idaho and Montana.

The output of recoverable zinc in Montana decreased from 209,258,148 pounds in 1918 to about 176,432,000 pounds in 1919. The value of the output decreased from \$19,042,491 to about \$12,915,000. The principal zinc producers of Montana were the Butte & Superior, Anaconda, Elm Orlu, and Butte Copper & Zinc mines. Smaller producers were the Snow Storm mine, in Lincoln County; the Davis Daly, at Butte; and the Montana Consolidated, in Jefferson County. Most of the zinc concentrate was smelted in the East, but zinc ore from the mines of the Anaconda Copper Mining Co. was concentrated at Anaconda and the concentrates were leached at Great Falls. The electrolytic plant was active during 1919, but the output was less than that of 1918, when much custom material was treated.

Crude Oil Increase

In the first nine months of 1918, there were 242,417,070 barrels of crude oil run to the stills as compared to 263,195,814 barrels run during the corresponding period of 1919, an increase of 20,778,744 barrels, or approximately 9 per cent.—Bureau of Mines.

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Paul Wooton, News Editor.

New York Office: 507 Fifth Avenue.

Tel. Murray Hill 3830.

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LIMITED EXPORTS OF COAL NOW ARE BEING ALLOWED

Walker D. Hines, Director General of Railroads, on December 29, authorized the following:

In the two weeks which have passed since the bituminous coal miners returned to work generally, production has increased regularly. This has afforded a great measure of relief in those consuming sections customarily supplied by miners in the central competitive field and in the Southwest and in which sections consumers' stocks have been much depleted. Indicative of the better condition of such stocks is the fact that many of those consumers who were eager during the strike to obtain coal from the fields which had continued to produce in the East, have refused now

to take such coal which the railroads moved west during the strike to protect such consumers the additional freight rate from the East naturally entering into the price of the coal.

It is necessary under these circumstances that productions of the eastern fields be again turned into usual channels and usual markets, and among the latter is the overseas export market. Otherwise, a serious congestion of coal loads will inevitably develop on the railroads.

After careful consideration of the entire situation, it has been deemed advisable to permit restricted resumption of overseas export movement of bituminous coal. Instructions have already been issued for such movement through the ports of Hampton Roads and Baltimore in an amount equal to about 50 per cent of the export tonnage handled through those ports in the month of October. Similar arrangements will be made at other ports as soon as the necessary details now under way can be perfected. At each port, however, the export dumping will be only allowed upon a restricted basis, the restrictions being made effective by railroad embargoes against the movement of coal to tidewater ports for export, and the issue of permits by the railroads under the control of the regional directors authorizing the movement of specific coal against such embargoes.

During the past two weeks, while production has been on the increase special provisions have been made for the export of coal to Cuba, necessary there for sugar production ultimately to be moved to this country. In addition, a few other cargoes have been permitted by the Central Coal Committee, acting in conjunction with the representatives of the destination countries concerned, in order to take care of vital necessities among our allies, and also of foreign consumers whose output was contracted to be shipped to the United States.

Kerosene Production Increases

The production of kerosene during 1919 was 26 per cent larger than the production of 1918, due to the demand of foreign countries that were unable, during the war, to obtain their supply of this commodity. Our exports of kerosene reflect the release of tanker tonnage, since the armistice was signed, and increased 97 per cent over the exports of 1918; shipments to our insular possessions (Alaska, Hawaii, Porto Rico and the Philippine Islands) were 43 per cent larger than the year before; domestic consumption remained about the same. Stocks of kerosene have decreased about 20 per cent since September, 1918.—Bureau of Mines.

SILVER AND GOLD IMPORTS AND EXPORTS

SILVER IMPORTS INTO AND EXPORTS FROM THE UNITED STATES. DISTRIBUTED BY COUNTRIES.

	<i>Imports from Jan. 1 to Dec. 20, 1919</i>	<i>Exports from Jan. 1 to Dec. 20, 1919</i>
Belgium.....	\$1,797	...
Denmark.....	...	\$684,713
Finland.....	...	17,438
France.....	64,296	6,588,197
Gibraltar.....	2,400	...
Netherlands.....	...	2,094,084
Norway.....	...	1,219,430
Portugal.....	...	1,950
Spain.....	...	228
Sweden.....	...	194,526
Switzerland.....	...	172,203
United Kingdom—		
England.....	61,746	15,635,386
British Honduras.....	269,276	...
Canada.....	6,836,116	7,829,741
Costa Rica.....	163,665	...
Guatemala.....	8	5,900
Honduras.....	2,621,645	201,100
Nicaragua.....	764,119	...
Panama.....	89,273	348,250
Salvador.....	901,183	1,500
Mexico.....	61,133,673	1,701,558
Newfoundland.....	11	...
Jamaica.....	4,639	...
Trinidad.....	37	10,328
Other British West In-		
dies.....	1,549	2,300
Cuba.....	82,837	161
Virgin Islands (U. S.).....	1,105	...
Dominican Republic.....	...	150,000
Dutch West Indies.....	300	...
Argentina.....	64,433	3,867
Bolivia.....	132,785	...
Brazil.....	2,155	1,638
Chile.....	1,927,324	...
Colombia.....	265,708	2,000
Ecuador.....	13,670	...
British Guiana.....	121	3,193
Dutch Guiana.....	265	5,063
Peru.....	8,535,684	...
Venezuela.....	1,178	850,000
China.....	...	70,108,537
Chosen (Korea).....	3,328	...
British India.....	...	109,180,718
Dutch East Indies.....	1,773,584	...
Hongkong.....	20,000	10,088,429
Japan.....	...	3,946,453
Russia (Asia).....	...	52,759
New Zealand.....	1,566	...
Philippine Islands.....	12,327	...
British West Africa.....	...	17,777
British South Africa.....	76,822	...
Portuguese Africa.....	68,698	...
Total.....	\$85,899,323	\$231,119,379

GOLD IMPORTS INTO AND EXPORTS FROM THE UNITED STATES. DISTRIBUTED BY COUNTRIES.

	<i>Imports from Jan. 1 to Dec. 20, 1919</i>	<i>Exports from Jan. 1 to Dec. 20, 1919</i>
Belgium.....	\$831,002	\$31,900
Denmark.....	...	2,002,666
France.....	...	4,152,533
Greece.....	95,000	...
Italy.....	...	412,050
Netherlands.....	...	15,000
Spain.....	...	29,778,000
Sweden.....	...	661
Switzerland.....	...	67,570
United Kingdom—		
England.....	4,055,739	2,088,974
British Honduras.....	...	12,000
Canada.....	44,096,951	5,557,953
Costa Rica.....	616,583	...
Guatemala.....	8,267	...
Honduras.....	258,255	21,300
Nicaragua.....	1,373,276	16,500
Panama.....	3,401	1,390,000
Salvador.....	1,138,637	3,114,020
Mexico.....	4,361,596	9,582,117
Newfoundland.....	61	...
Jamaica.....	1,947	...
Trinidad.....	18,838	7,940
Cuba.....	9,593	...
Virgin Islands (U. S.).....	525	...
Dominican Republic.....	...	25,000
Dutch West Indies.....	5,200	...
Argentina.....	102,721	54,110,000
Bolivia.....	2,582	2,500,000
Brazil.....	26,200	525,000
Chile.....	233,837	100,000
Colombia.....	556,572	5,238,620
Ecuador.....	379,911	...
British Guiana.....	139,159	5,005
Dutch Guiana.....	20,144	19,795
Peru.....	792,983	3,383,369
Uruguay.....	...	8,105,000
Venezuela.....	381,486	11,552,220
China.....	...	37,315,326
Chosen (Korea).....	1,714	...
British India.....	...	31,843,913
Straits Settlement.....	...	2,439,667
Dutch East Indies.....	3,851,075	7,365,111
Hongkong.....	10,017,550	37,649,001
Japan.....	...	94,114,189
Russia (Asia).....	...	23,000
New Zealand.....	1,354,578	...
Philippine Islands.....	581,924	102,500
British South Africa.....	8,150	...
British East Africa.....	...	240
Portuguese Africa.....	619,296	...
Total.....	\$75,944,753	\$354,668,140

Silver Exports

	<i>During 10-day period ending December 20, 1919</i>	<i>During month ending Decem- ber 20, 1919</i>
Canada.....	\$192,560	\$3,327,995
China.....	3,486,566	21,379,874
Hongkong....	164,874	3,078,516
All other.....	161,964	1,838,220
Total.....	\$4,005,964	\$29,624,605

Gold Exports

	<i>During 10-day period ending December 20, 1919</i>	<i>During month ending Decem- ber 20, 1919</i>
Argentina.....	\$100,000	\$18,750,000
China.....	2,671,965	2,872,092
India.....	260,000	4,213,780
Hongkong.....	1,581,540	4,204,795
Japan.....	1,500,000	9,517,079
Spain.....	508,000	1,708,000
All other.....	1,983,919	6,701,779
Total.....	\$8,605,424	\$47,967,525

Montana Dividends

The dividends paid by Montana companies for the first eleven months of 1919 amounted to about \$10,590,600. The principal dividend payers were the Anaconda Copper Mining Co. and the Barnes King Mining Co.

South Dakota Mining in 1919

Preliminary estimates, made by Charles W. Henderson, of the United States Geological Survey, Department of the Interior, indicate that gold mines in South Dakota produced \$5,391,000 in 1919, as compared with \$6,565,337 in 1918, and 114,000 ounces of silver, as compared with 159,202 ounces in 1918. The ores shipped to smelters contained only nominal quantities of lead and copper.

At the end of 1918 the Homestake mines and mills were operated at only 77 per cent capacity. Shortage of labor continued during the year 1919, but production began to increase in April. Production continued steadily until September 25, when a fire was discovered on the 800-foot level. Later this fire reached the 700-foot level, and it was found necessary to flood the mine to the 600-foot level.

While the mine was flooded—during October and November—the operations at the mines and mill were necessarily curtailed, but they were resumed December 1. The Mogul mill was closed during the latter part of the year, and the Trojan mill was the only one that was operated without interruption. These three companies were the only large operators in 1919.

LAYS RAILROAD PLAN**BEFORE THE CONFEREES**

Corporations managed in the public interest, to succeed the present corporations carried on to earn profits for the owners, are a central feature of a new plan for settling the railway problem published in a recent issue of Engineering News-Record and laid before the Congressional conferees by Charles Whiting Baker, consulting editor, the author of the plan.

Under this plan the present railway corporations would be reorganized as federal corporations for efficient public service and would be conducted by directors representing the public, the railway operatives and the stockholders. These directors would be selected for their ability and experience in the transportation business. Rates would be so adjusted as to yield a reasonable surplus after paying operating expenses and a fixed return on the capital invested. A portion of this surplus would be used to pay a profit-sharing dividend to the officers and employees on the road earning the surplus to stimulate efficient service. The remainder would be available for use as additional railway capital or to pay off maturing bond issues, so that the capital invested in railways on which a return must be paid would be gradually reduced.

Mr. Baker urges that directors chosen in the manner proposed would be more competent than directors named by the financial interests which now control the railways and that the defrauding of railway investors for the enrichment of the financiers in control of a property would be ended.

In a searching analysis of the present situation of the railways, Mr. Baker shows that government operation of the railways during the past two years has been less of a failure than is generally supposed; but such success as it has had has been chiefly due to its use of the operating organizations which had been created under company control. We have had no real trial of government ownership under such conditions as would exist if it were accepted as a permanent policy.

We cannot go back to the conditions of a quarter century ago; unregulated exploitation of the public by the railway companies will never again be tolerated. It has become impossible to finance privately owned railway corporations while they are under public regulation to the extent now necessary. The only alternative, therefore, to outright government ownership and operation, with all its inevitable inefficiency and waste, is the establishment of public corporations for railway operation on the general plan here proposed.

California Metal Production in 1919

The output of gold, silver, copper, lead and zinc from metal mines in California in 1919 was valued at \$23,124,045, as compared with \$31,187,807 in 1918, according to preliminary figures compiled by Charles G. Yale, of the San Francisco office of the United States Geological Survey, Department of the Interior. This is a decrease of \$8,063,762, or 26 per cent.

The mine output of gold for the state in 1918 was \$16,528,953. The estimate for 1919 indicates a production of \$17,320,250, which is about \$791,300 more than in 1918. Although the conditions for gold mining continue to be unfavorable, some such increase as this was to be expected in view of the fact that the decrease in the gold output in 1918, as compared with 1917, was abnormally large. The decrease in 1918 was \$3,558,551, the largest in many years, so the increase for 1919 merely shows that mining California has begun to readjust itself to the present general conditions, and in a few years the gold mines of the state will no doubt be able again to produce their average normal annual output of about \$20,000,000.

One very good indication of this readjustment is that the Mother Lode mines, which produce most of the gold-bearing ore, though still making a smaller output than usual, are materially raising the average value of the ore per ton. Moreover, some of these mines are finding in the lower levels a better grade of ore than was found in levels 1,000 feet or more above. The gold mine with the deepest vertical shaft in the state and in the United States is now extracting from the 4,050-foot level ore of much higher average value than any other ore found for several years, a fact that is encouraging to all the gold miners in the Mother Lode counties and that is inducing them to sink deeper workings.

The labor conditions in the gold mines of the state, though still unfavorable, were improved somewhat in 1919, as compared with 1918—that is, more skilled labor was available or the mines were worked on more nearly full time. The employers complain, however, that labor is far more inefficient now than in normal times, the employees apparently having generally determined to “slack up”—to perform less than an honest day's work—particularly those working in the deep mines.

Idaho Dividends

The dividends paid by Idaho mining companies for eleven months of 1919 amounted to about \$2,000,000.

NEW REGULATIONS FOR

IMPORTS OF DYESTUFFS

The War Trade Board Section of the Department of State announces that effective December 19, 1919, and until further notice, no licenses for the importation into the United States of dyestuffs derived directly or indirectly from coal-tar products, including crude and intermediate products, and all other articles described or enumerated in Paragraph 4, of War Trade Board Ruling 825, issued August 15, 1919, which are of non-enemy origin, will be issued, except to satisfy the requirements of the actual consumers thereof, for a period not exceeding six months from the date of the filing of the application.

Accordingly, applications filed by actual consumers should be accompanied by an affidavit from such consumers stating that the commodities and the quantities thereof applied for are required to satisfy the said six months' requirements and are not in excess thereof. Likewise, importers, jobbers, and all other persons desiring to import dyes of non-enemy origin shall file with their applications affidavits signed by the ultimate consumers of the articles applied for, stating that the commodities applied for are actually required for consumption during the six months' period referred to above and that the quantities thereof are not in excess of the amount required by them for actual consumption during the same period.

Graphite in Bavaria

The Bavarian graphite industry is facing a serious crisis. The falling off of the metal trade since the end of the war has greatly lessened the demand for crucibles. This, combined with an over-production and over-capitalization, and the competition of the cheaper graphite from Madagascar and Ceylon, has caused a slump in the domestic industries.—Bureau of Mines.

Gold Miner's Dilemma Increases

The gold miner's problem has recently been under consideration in South Africa, where the British government was approached on the question of a subsidy for the gold producers; but this was refused on the ground that since gold is the standard of value, no more can properly be paid for it than its value in currency. Later a request was made for permission to import some cheap colored labor from warmer latitudes in an endeavor to lower the cost of production in the low-grade mines. Due to the susceptibility of these natives to pneumonia when working in the mines, such action is at present prohibited by law.—Bureau of Mines.

NO IRREGULARITIES IN COPPER NEGOTIATIONS DECLARES GARRETT

In criticizing the Graham report, which alleges various irregularities in the relation of the copper producers and the War Department, Representative Garrett, of Tennessee, made some interesting remarks in the House of Representatives. Extracts from his remarks and of the questions asked him follow:

The report makes this statement:

"In the last case cited, that of the United Metals Selling Co., immense profits were made by the producers of copper by virtue of a combination of the low-priced copper producers, which combination was aided and encouraged by the Government, although in violation of the law of the land."

Here, gentlemen, are the facts: The United Metals Selling Co. is a corporation, formerly, I believe, chartered by the State of New York, but now under the laws of Delaware. Its business is the sale of metals. It acts as agents for the producers of zinc and copper and steel and pig iron, if I remember correctly, and the various classes of metals, and sells to the consumer for the producer. It has been in existence—it or one of its predecessors has been in existence—for a quarter of a century or more. There are about twenty such companies in the United States, this being, I believe, the largest. Before we entered the war the demand for copper on the part of the nations of Europe was immense.

They were taking practically all of our supply, save such as we retained for domestic and peace time manufacture here. And, by the way, we were practically the sole source of supply for the nations with whom we subsequently became associated in the conflict.

When we entered into the war there was, of course, an immediate realization that the demand for copper for war purposes was to be tremendously increased, and there had to be certainty. There had to be uniformity. The Government of the United States, therefore, went to the people who knew something about copper and entered into negotiations with them to see what could be supplied. The gentleman from Nebraska [Mr. Jeffers] made reference to the Government entering into a contract with the American Can Co. for cans. Of course they did. The Government needed cans wherever they could get them. Would the gentleman from Nebraska go to a shoemaker's shop for a shave? Would the gentleman from Illinois go to a millinery store for a massage? The Government went where it had to go, to the men who knew how to obtain these things. And what happened? At the time we entered the war copper was selling at from 26 to 33 cents

on the markets of the world. The first move that was made by this Government to obtain copper was made by Mr. Bernard M. Baruch. Even before we entered the war the Congress had appropriated for the purchase of a vast amount of copper. The Navy Department and the Army together needed 45,000,000 pounds of copper. Mr. Baruch went out to the copper men and brought about among them an agreement whereby different ones furnished to the Government of the United States 45,000,000 pounds of copper at 162-3 cents a pound, being the average price extending over the previous 10 years of production, although the world price at that time was from 26 to 33 cents a pound.

After that, with the price of copper still continuing to rise, it was realized that something must be done to stabilize prices and—what was even more important—to insure production. Those gentlemen on the Military Affairs Committee, who knew of the need, will acquiesce in that as a matter of course.

And what occurred? In September, 1917, after negotiations on the part of representatives of the Government with various copper producers and the agencies that were selling copper, such as the Standard Co. and the United Metals Co. in particular, a uniform price was agreed upon at which the Government was to obtain its copper; to wit, 23½ cents per pound. And in addition to that the laborers in the copper mines—who, where they are unionized, have a contract, and have had for long years that they shall receive payment on the basis of the price at which the producer sells the copper, what is called a sliding scale—were protected, so that although the producer received only 23½ cents a pound they received the wages based on the price at which copper was then selling upon the market, to wit, from 26 cents up.

That was in September, 1917. In July, 1918, the price was raised to 26 or 26½ cents a pound f. o. b. New York, which is the basis of all these prices. That, of course, was to meet the rising scale of prices due to the inflation which always comes with bond issues, and also to meet the increase in freight rates that went into effect on the first day of that month.

That, gentlemen, in brief, is the story of copper; and I undertake to say to you now that if it had not been for this arrangement and those agreements, the price of copper would have been to us—with the demand all the time growing, and with us in competition with those countries with which we had become associated in the war—a sum which no man would now dare hazard a guess about, certainly not less than 35 or 40 cents a pound. And there was, in my opinion, no combination in—

volved in that arrangement which in any way was in violation of the law of the land, but upon the contrary the Public Treasury was protected, and every legitimate interest of the Government was carefully guarded.

Tuesday, December 16, 1919

Mr. Garrett. Mr. Speaker, when I stopped yesterday afternoon I had spoken longer than I have for many years in the House of Representatives, and longer than I desired to. My only apology for continuing today is the complex character of the matter which has been brought before the House for debate. I have sought, and shall continue to seek, to state the facts of the record, because it is upon the facts of the record that these matters must rest and that public judgment should be formed—not upon the inferences and intimations of the majority, nor the inferences and suggestions of the minority. I wish it were possible for every Member of the House to read the record. If judgment is to be asked, if executive and judicial propositions are to be thrust before the legislative branch of the Government and discussed before the country, then we should adapt ourselves to the requirements of the situation and read the facts. And upon that record of facts—all the record, not a page here or a page there—the minority is content to stand here and before the country.

Yesterday afternoon I had just concluded a brief review of the organization under which the purchases of copper were made for the use of the Government. I omitted to say, and perhaps it will be of interest to the House to know, that the Government of the United States purchased during the war 670,000,000 pounds of copper. This was in addition to the amount—I do not know how much that was, but it was immense, probably as much as the Government itself purchased—which was being purchased by those who had Government contracts for munitions of war, and also in addition to the tremendous amount—I do not know how much that was—which was being furnished to the allied powers in Europe.

I think it is proper, and I think the House will be interested to some extent to take up now the facts of the disposition of the surplus which remained at the signing of the armistice. With the signing of the armistice the copper market became completely and thoroughly demoralized. It was known, of course, that the Government had large quantities of raw copper, but just how much was not known. This condition of affairs in the copper market continued through November, December, and January, as I recall. It was not known what the

Government proposed to do with its surplus copper, whether it would hold it or whether it would be placed upon the market. Along in January or February, 1919, if I remember correctly, there was presented to some branches of the Government a statement as to the condition. Bear in mind that the production of copper had by every incentive that the Government could properly hold before the producers been speeded up to the highest point during the period of the war. Every mine that could possibly be put into production had been opened to production. It was absolutely essential as a military necessity.

The condition when the statement was presented was that there was something like a billion pounds of raw copper in the hands of the producers, in the smelters, and at various storage points. One hundred and seventy-five million dollars was tied up in this copper. The labor situation was completely demoralized. Working as they did upon the standard scale of prices, it was impossible to determine what labor could be paid and should be paid under the agreements had with the mine owners. With this condition confronting the Government and confronting the people of the country, steps were taken to clarify the situation. Representatives of the Government and copper men, producers, through the United Metals Selling Co. in particular, because that had been the company which had handled the copper purchased by this Government, while the Standard Co., I think it was, handled that which was sold to the allied countries, arranged conferences to see what could be done to relieve the situation. A number of conferences were held, numerous propositions were canvassed. Differences of opinion arose that were sharp and marked, but all of these negotiations finally culminated, about April 10, 1919, in a contract with the United Metals Selling Co. whereby that company bound itself to take from the Government, beginning in the month of April, 1919, and continuing if it should become necessary until the month of June, 1920, 5,000,000 pounds of copper per month up until and including January, 1920, and 10,000,000 pounds per month after January, 1920, up until and including June, 1920. Before it engaged in that contract the United Metals Selling Co. had the cooperation and assurance of the various copper producers whom it represented that these contracts would be carried out. This copper was to be taken at a certain price, and I read now from the contract itself:

"The contract price for copper in usual commercial shapes, is hereby fixed at the monthly average New York price for electrolytic copper, quoted by the Engineering and Mining Journal published in New York."

That is the standard journal of the trade.

Mr. Juul. Mr. Speaker, will the gentleman be good enough to state the volume from which he quotes?

Mr. Garrett. I am quoting from part I of serial 6, at page 56 of the hearings before the sub-committee, No. 5, and I read from the contract itself. There was another condition of this contract, slightly complicated, which I read:

"Should the sales of copper owned or controlled by the purchaser and all producers of copper represented by it, in any one month during the months of April, 1919, to January, 1920, both inclusive, exceed 50,000,000 pounds, and during the months of February, 1920, to June, 1920, both inclusive, exceed 100,000,000 pounds, in such event the quantities specified in the above schedule shall be increased by an amount equal to 20 per cent of such excess."

In other words that meant, that if the United Metals Selling Co. and those producers whom it represented should sell in excess of 50,000,000 pounds of outside copper, not Government copper, there should be taken, in addition to the 5,000,000 pounds that the Metals Selling Co. was absolutely obligated to take from the Government, 20 per cent of the total amount sold, and that 20 per cent should be taken out of the Government's supply.

The effect of that was immediate. The market became certain and the Government received for its copper the prevailing average monthly prices as shown by the market reports. As to whether that was wise or not, of course the judgment of men may differ, but I should like to know what there is about it to justify any imputation of fraud.

Another case has been referred to in the report, though not as yet upon the floor of the House; but, as I am anticipating that it is likely to be, perhaps I should say something concerning it. I do not wish to say much, partly for the same reason that I gave when I expressed myself in regard to the Standard Steel Car Co. settlement on yesterday. I refer now to the Jones & Laughlin contract, mentioned in the majority report. This is a steel-manufacturing concern located in or near Pittsburgh, Pa. It entered into a contract with the Government of the United States to construct 300 modern coke ovens. The Government's interest in it was to procure tolul for use in the manufacture of high explosives and ammonium sulphate. The contract is in our record, and is quite lengthy, and differs from some other contracts. Briefly, it may be stated that it was estimated, and this estimate was expressed in the face of the contract, that after these 300 ovens should have been completed there would be produced 810,000 gallons of tolul per annum, and the Government bound itself to take the full amount of production, whatever it might be, at the price of

\$1.50 per gallon. I do not now remember the estimate as to the amount of ammonium sulphate. These ovens had not been completed at the time the armistice was signed. The Government sought a termination of the contract, and upon investigation it was found that it was so near completion that it appeared to be to the interest of the Government to let the company complete the ovens and settle upon the basis of the original contract, and accordingly this was done. A claim was filed before the Pittsburgh board of claims, and was there first passed upon.

Along in February, 1919, a meeting was held in New York of representatives of the Government and of chemical men—I believe some chemical experts were present—this meeting being called by the head or chief of the claims board of New York particularly to discuss this tolul situation and to reach some conclusion as to how the many tolul contracts and claims should be settled. That meeting was attended by a representative of the Government by the name of Falk.

I have forgotten for the moment the precise position which he held, but I think he was a chief in the Ordnance Bureau of the Raw Materials Division throughout the war. He had been in private life a consulting engineer, as I now remember. He had made under his direction some time during the latter part of the war a table which is commonly referred to as the Falk chart, and it was referred to in the order issued by the Claims Board Division of the War Department. This chart undertook to estimate the amount of probable production of tolul at given plants. There is testimony from a very respectable source, in my opinion, in our record to the effect that there were errors in this Falk chart, though he himself assumed full responsibility for the chart, although he did not personally prepare it, insisting that it was correct. The Pittsburgh claims board along in March, I think it must have been, or perhaps in April, 1919, made an award making its recommendation as to the amount that Jones & Laughlin should be paid on the cancellation of the contract. I think that award reached the bureau board here, and if I am in error I will thank the gentleman from Illinois to correct me, but before it was taken up for consideration by the bureau here the Pittsburgh claims board received knowledge of this Falk chart. Jones & Laughlin had declined to accept their award. So they recalled the claim from this board, re-investigated it, and apparently settled it in the light of the Falk chart, and that increased the award made to Jones & Laughlin, which they accepted, by the sum of \$350,000. Now, I wish to state all the facts and state them fairly. That settlement on the Falk chart did apparently give the very highest reasonable credit for production that seemed at all probable in the industry. It did allow payment for

an amount based upon the estimated productions of the full plant of 300 ovens running 24 hours a day every day in the year at full capacity. Now, that is the substance of all we know about that claim. I do not know all the elements that entered into the consideration in the negotiation and adjustment of this particular transaction. Jones & Laughlin have not been heard before the committee.

The officer of the Government who actually negotiated the settlement was not heard by the committee nor called by the committee for any explanation of the matter. I do not hesitate to say to you, because I wish to be perfectly frank, that it seemed to me that the settlement was too large, but I do not believe that there is the slightest justification from anything which appears in our record of any imputation of fraud against the officer who negotiated it. It is a question of business judgment. That gentleman is available—

Mr. Dempsey. Will the gentleman yield for a question as to the copper-selling contract?

Mr. Garrett. Certainly.

Mr. Dempsey. As a lawyer I have had this experience: The wheat market took a tremendous fall a number of years ago. Day by day the papers of a certain city quoted wheat at \$1.25 a bushel and you could not sell a bushel of wheat to save your life for a dollar. Now, this selling contract provides as the sole standard, as I understood the gentleman, the quotations in a particular paper, not in all papers, but in one paper alone. I happen to know, because I was interested as an attorney of this situation, that one broker furnished all the quotations for the papers at that time, and I happen to know that he was loaded to death with speculative and real wheat. Now, is not your contract subject to the objection that this particular paper might not show at all the selling price of copper in the months to which the gentleman refers from time to time throughout the life of the contract?

Mr. Garrett. I will say to the gentleman that in the first place this paper, as I understand it, is recognized as the standard journal of the copper metal industry. In the next place it is a fact that there was verification of the prices quoted. The gentleman will understand that this copper to be sold in April was not in fact sold and delivered in April. It would be sold in the following month, and so on, of subsequent months, at the average price as given in this journal for that month, and that price was verified by actual investigation of the prices at which copper was selling generally in the market. So I do not think that that criticism would apply.

Mr. Dempsey. But what I am criticizing is that by the contract as the gentleman describes it you do not have the right to verify, you do not have the right to correct, you do not have the right to vary, you put this absolutely

in the power of this single paper and its quotations.

Mr. Garrett. Well, I did not read the full contract a few months ago, but I will say to the gentleman that, as a matter of fact, there was verification.

Mr. Dempsey. I am not talking about what was done, because I do not know about that, and the gentleman has not stated as to that until now; but I was taking the gentleman's statement of the effect of the contract and its provisions and terms.

Mr. Garrett. If the gentleman will examine the full contract—it is quite lengthy—he will find that the interests of the Government were absolutely protected. Now, upon the question of whether the contract was proper, the gentleman's judgment might differ from mine. It seems to me it was a very reasonable and proper proceeding.

Mr. Juul. Will the gentleman yield for a brief question?

Mr. Garrett. Certainly.

Mr. Juul. The gentleman who previously requested to be answered illustrated his subject with wheat. Now, there is a method for verifying wheat prices. If you can sell wheat at a given figure in Liverpool, England, that is considered in this country to be the standard, valid price established. Now, is there a similar method for establishing a standard, current price for copper, so that the world may know copper is sold for today? Is there a market somewhere that establishes a standard?

Mr. Garrett. I do not understand, Mr. Speaker, that there is any future speculation in actual copper. Speculation in regard to copper is in copper stocks and not in copper itself.

Mr. Baker. Will the gentleman yield for a question right there?

Mr. Garrett. I will.

Mr. Baker. This contract has been running now about six months, has it not, and been in operation?

Mr. Garrett. Longer than that. It began in April, 1919. Perhaps I may anticipate what the gentleman is going to ask me. All the Government's surplus copper has been disposed of long ago.

Mr. Baker. The quotations in the paper name the value of copper throughout the country. Has there been any evidence presented by the majority of the committee to show that these quotations in the paper were fraudulent or improper, or lower or higher than the ordinary market throughout the country?

Mr. Garrett. Oh, no. There has been no question raised in the committee about that. Upon the contrary, a witness selected by the committee, who seemed to be a very bright gentleman, a Mr. Gibbs—I believe his name was—secretary to Senator Brandegee, made an investigation of the journal and of the market conditions, and his figures as testified to, bear

out absolutely the statements of all the others in regard to the prices at which copper sold during those respective months. Oh, no; there is no question about that.

Mr. Baker. Then as to the suggestion of the gentleman from New York [Mr. Dempsey] that it might have been unfair to the Government by designating this paper, it turns out that it was not unfair?

Mr. Garrett. It was not.

HIGH COSTS HAMPER MINING

IN UTAH—SMELTERS VERY ACTIVE

The output of gold, silver, copper, lead, and zinc from mines in Utah in 1919, according to Victor C. Heikes, of the United States Geological Survey, Department of the Interior, had a value of about \$45,439,000, which represents a decrease of nearly \$41,000,000 from the value of the output in 1918. There were decided decreases in both the quantity and value of the metals produced. The average price of silver for the year was much higher than in 1918, but the prices of copper, lead, and zinc were much less. The mining industry was seriously affected by high costs of operation, lower prices of the metals, and a labor strike at Park City, which closed the mines of that region for two months.

Despite these difficulties the four smelting plants of the state were active throughout the year, but they were not operated at full capacity.

The mine production of gold decreased from \$2,949,170 in 1918 to approximately \$2,070,000 in 1919, a decrease of nearly 30 per cent. Most of the gold came from copper, lead, and zinc ores that were treated at smelting plants. No great amount of ore was either amalgamated or cyanided, though some ore was amalgamated at the Wedge mine and some was cyanided at the Deer Trail property, both in Piute County. More than half of the output of gold in the state came from the Bingham district, about one-fourth from the Tintic district, and the remainder from the Park City region and other camps. The largest producers of gold were the United States Mining Co., Utah Copper Co., and Utah Consolidated Mining Co., of Bingham.

The mine output of silver decreased from 13,455,597 ounces, valued at \$13,455,597, in 1918, to about 11,569,000 ounces, valued at \$12,865,000 in 1919. The Chief Consolidated mine at Eureka was again the largest producer of silver in the state, and the Tintic Standard followed closely. The output of the Tintic district was maintained, but decreases occurred at Bingham and Park City. In the Bingham district the United States Mining Co., Utah Consolidated, Utah Copper, and Utah Apex were the largest pro-

ducers of silver, and at Park City the Silver King Coalition and the Ontario mine were large producers.

The mine production of copper decreased from 227,169,630 pounds in 1918 to 123,626,000 pounds in 1919. As the average price was considerably less, the value of the output decreased from \$56,110,899 to about \$23,242,000. The largest production of copper came from the Utah Copper property at Bingham, which yielded close to 9,000,000 pounds a month throughout the year, a decided decrease. Next to the Utah Copper, the Utah Consolidated was the largest producer of copper, followed by the Ohio Copper Co. and the United States Mining Co. In the other districts the principal producers of copper were the Ophir Hill, at Ophir; the Mammoth mine, the Centennial Eureka, and the Tintic Standard, in the Tintic region, and the Bingham Mines Co. at Bingham.

The mine output of lead decreased from 167,008,224 pounds in 1918 to 121,249,300 pounds in 1919, a decrease of nearly 26,000,000 pounds. The value of the output decreased from \$11,857,584 to about \$6,935,000. The largest producers of lead in the state were the United States Mining Co., Utah Apex, Utah Consolidated, Ophir Hill, Silver King Coalition, Tintic Standard, and Chief Consolidated mines.

There was a decrease of about 77 per cent in the production of recoverable zinc. The mine output decreased from 18,399,417 pounds in 1918 to about 4,467,000 pounds in 1919, and the value of the output from \$1,674,347 to about \$326,984. The principal producers of zinc were the United States Mining Co. and the Utah Apex Mining Co., at Bingham; the Judge Mining & Smelting Co., at Park City, and the Scranton mine, Tooele County. The electrolytic plant of the Judge Mining & Smelting Co., at Park City, was active for only six months of the year. Much of the decrease was due to the idleness of the tailing plants at Frisco and Midvale.

In 1919 the mines of Utah produced approximately 6,427,000 tons of ore, a decrease from 14,705,718 tons in 1918. Of this total, the Bingham district produced about 5,913,000 tons, as compared with 13,607,650 tons in 1917. The production of the district is estimated as 56,000 ounces of gold, 1,600,000 ounces of silver, 117,000,000 pounds of copper, 54,000,000 pounds of lead, and 2,674,000 pounds of recoverable zinc. There was a decrease in the Tintic district, where the mines produced about 265,000 tons of ore, exclusive of iron ore, as compared with 362,494 tons in 1918. The estimated production of the district was 25,000 ounces of gold, 6,800,000 ounces of silver, 2,800,000 pounds of copper, 24,000,000 pounds of lead, and a small amount of zinc. The mines that had an output of more than

1,000 tons during the year were the Dragon, Chief Consolidated, Iron Blossom, Eagle & Blue Bell, Tintic Standard, Centennial-Eureka, Grand Central, Swansea, Mammoth, Colorado, Ridge & Valley, Empire, Bullion Beck, Gemini, and Victoria. The Tintic Milling Co. treated much ore locally and shipped bullion that contained gold, silver and copper. Shipments of ore and concentrate from the Park City region in 1919 amounted to about 63,325 tons, a decrease from 89,588 tons in 1918. Tabulation of the mines that made the largest production gave an estimated output for the district of \$64,083 in gold, 1,800,000 ounces of silver, 625,000 pounds of copper, 20,000,000 pounds of lead, and 1,350,000 pounds of recoverable zinc. The decrease was general, on account of the idleness of the mines during the two months of the strike. The mines of Ophir and Rush Valley districts produced 73,000 tons in 1919, as compared with 81,475 tons in 1917. The main producers were the Ophir Hill Consolidated and Bullion Coalition mines. About 18,250 tons of ore were shipped from the Big Cottonwood, Little Cottonwood, and American Fork districts, as compared with a total of 35,269 tons in 1918. In Beaver County shipments decreased from 43,426 tons in 1918 to about 9,400 tons in 1919. A large production of bullion and concentrate came from the Deer Trail mine, in the Ohio district, of Plute County.

Dividends paid by mining companies in Utah in 1919 for eleven months amounted to \$8,399,631. Dividends were also paid by the United States Smelting Co., which controls mines at Eureka and Bingham.

Copper Mining Bill

Hon. Carl Hayden, Congressman from Arizona, has introduced a bill to provide for the disposal of public lands in Arizona, New Mexico, Nevada and Utah, containing copper at depth. The legislation proposed by the Hayden bill is designed to meet and deal with a condition to which the existing federal mining laws are not, from the practical standpoint, applicable.

The important copper deposits in the states mentioned do not occur in technical vein or lode formation, but in extensive low-grade bodies, usually underlying a heavy overburden of wash, conglomerate, or nonmineral-bearing formation. To discover such underlying deposits deep and expensive drilling or shaft sinking is necessary, requiring months, and even years, for its accomplishment. Under existing law a discovery in such a drill hole or shaft could serve to validate, and vest possessory title to, only one claim, 1,500 by 600 feet, or an area of only about twenty acres,

which is absurdly insufficient to justify the great outlay involved.

In the past the mining communities have attempted to meet the conditions by locating claims and doing annual assessment work in the overburden. Such claims, in most instances unsupported by any semblance of discovery, have been by the communities recognized as property and bought and sold as such, but, generally speaking, the ground has remained undeveloped.

In many instances meager surface showings, not connected with the underlying deposits, have been claimed as discoveries and even made the basis of patent proceedings. In the early days the land department did not critically examine into the matter of discovery unless the question were raised by protest or contest, and large numbers of such claims were patented. This was the case at Bisbee, Ariz., where the ore formation occurs at a depth of 1,000 feet or more. In later years the department has established the practice of requiring a detailed showing as to the character and quality of discovery claimed and of making, through its field service, an investigation on the ground. As a result, the department has been confronted with the question as to whether inconsequential mineral showings in the overburden could be accepted as sufficient to constitute discovery, as in the case of the Rough Rider and other claims which were finally patented because it was felt that the previous patenting of similar claims in the vicinity had established a rule of property.

There are thus large areas of land in the four states mentioned which the land department recognizes, or would recognize, as being mineral in character, but which remain undeveloped because title thereto cannot, as a practical proposition, be acquired under the present mining law.

To justify the great expense of exploration by drilling or sinking shafts to a great depth, as well as the great outlay in working shafts, machinery and equipment for actual mining operations, it is necessary that a reasonably large acreage be acquired or controlled. To operate on the extensive scale required, not only are extensive ore bodies requisite, but a large area of surface is also required for reduction plants, tailing dumps, etc.

The proposed legislation is designed to encourage the exploration and development of such lands by giving to anyone who will undertake deep exploration work the right to control and acquire an area of not to exceed 1,280 acres (which is about the minimum area now held by any of the large porphyry copper mining companies) upon conditions carefully designed to prevent abuse of the privilege.

NATIONAL LEGISLATION

Little legislation of importance to the mining industry was considered during the twenty days Congress was in session, December 1 to 20. The Esch-Cummins Railroad bill, largely occupied the time of both Houses. The Esch bill 4B10453 passed the House and the Senate amended by the substitution of the Cummins bill (S 2906) which is now before the Conference Committee. The Fordney Anti-Dumping Bill—H. R. 10874 and the Cummins Bill were the only legislation of importance to mining interests to receive the final action of Congress since our last issue. The General Leasing Bill, which is now before the House and Senate Conference, will probably be agreed upon in the very near future. It is understood that the bill is progressing to the stage where it may safely be said that final action will be forthcoming at an early date, and that the measure will meet with the approval of both government officials and the oil interests.

To date, January 2d, there have been introduced in the House and Senate 15026 bills. Since our last report the following bills of importance to the mining industry have been introduced:

LABOR

H. R. 10738, Collective Bargaining—Introduced by Mr. Kelly, referred to the Committee on the Judiciary, providing for collective bargaining between employers and employes in all industries engaged in interstate commerce. The bill provides that the refusal of any individual firm, corporation, etc., engaged in interstate commerce, that engages or uses the services of any employe for wage, salary, or other valuable consideration to bargain collectively with such employes, through their duly chosen representatives, is unlawful. Section two provides that the denial or interference, by any such employer engaged in interstate commerce, with the right of employes to organize in trade unions; the denial or abridging of or interference by any employe, with the right of such employes to organize in associations or groups; the discharge by any such employer of employes for membership in trades unions or for legitimate trade-union activities, and the use by any employes of coercive measures to induce persons to join their organizations, is unlawful. The bill provides a fine of not less than \$1,000, nor more than \$5,000, or imprisonment for not more than one year or by both fine and imprisonment for violation of the provisions of the Act.

H. R. 10882, Old Age Pensions.—Introduced by Mr. Sherwood referred to the Committee on Labor, providing that on and after September 25, 1920, all citizens specified under the Act who have been employed in the service of the United States Government, or who a

or have been employed by individuals, firms, partnerships or corporations engaged in interstate commerce, and all other American citizens irrespective of what occupation they have followed or by whom employed, shall be entitled to a pension of \$10 per month, or \$120 per year, payable quarterly: *Provided*, That the applicant shall have reached the age of sixty-four years and who is incapable of manual labor, and whose income is less than \$800 per year. It will be necessary for him to establish the fact that he has had a continuous labor record for twenty-five years, unless incapacitated through no fault of his own, during which time he has not been convicted of crime or felony, and he must have been a citizen of the United States for at least fifteen years.

H. R. 10736, Bolshevism.—Introduced by Mr. Kelley of Michigan, referred to the Committee on the Judiciary, providing that the advocacy or teaching of criminal syndicalism is a felony, and punishable, and that any person who by word of mouth or writing advocates the necessity or propriety of crime, sabotage, violence, or any method of terrorism for the overthrow of a republican form of government; or organizes or helps to organize, or becomes a member of, voluntarily assembles with any society, group or assemblage of persons formed to teach or advocate the teaching of the doctrine of criminal syndicalism, is guilty of a felony and is, therefore punishable by imprisonment not exceeding ten years, or by a fine not exceeding \$10,000, or both. Such literature as advocates the overthrow by force or violence, or by physical injury to person or property, of the Government of the United States, is prohibited from the United States mails. The bill provides for the deportation of aliens who violate the Act, and of any citizen who violates the Act the certificate of naturalization is withdrawn.

S. 3496, Employers' Liability.—Introduced by Mr. Sutherland, referred to the Committee on Education and Labor, Amending the Act to provide compensation for employes of the United States suffering injuries while in the performance of their duties. Section four of the original bill is amended to provide that if the disability is partial the United States shall pay to the disabled employe during such disability a monthly compensation equal to such percentage of the compensation paid in case of total disability as the difference between his monthly pay and his wage-earning capacity after the beginning of such partial disability bears to his monthly pay. A disabled employe may be required to make affidavit as to the wages

he is then receiving. Section six is amended to provide the monthly compensation for total disability shall not be more than \$100 nor less than \$50, unless the employee's monthly pay is less than \$50, in which case his monthly compensation shall be the full amount of his pay. The monthly compensation for partial disability shall not be more than \$100. Section ten is amended to provide that in the event of the remarriage of a widow, compensation shall be paid to her for a period of twenty-four months from the date of marriage. Various provisions are made for minor children, which are described to include stepchildren, adopted children, etc. Section eleven is amended to require that if death results within six years after the accident, the United States shall pay to the personal representatives of the deceased employee or any authorized person burial expenses not to exceed \$150. The commission is authorized to cooperate with the several executive departments and independent establishments of the Government to prevent personal injuries among their employes, to gather, compile, and publish such information as will tend to eliminate or reduce existing industrial hazards, and for the purpose of carrying out the provisions of this section is authorized to employ a safety engineer, at a salary not to exceed \$3,500 per year.

H. R. 10874.—Anti Dumping.—Introduced by Mr. Fordney, referred to the Committee on Ways and Means. The bill provides that the Secretary of the Treasury shall designate a sufficient number of special agents or other officers in the Customs Service having expert knowledge of appraisement of imported merchandise and the administration of customs laws; such officers to receive compensation not exceeding \$5,000 per year and expenses. The bill appropriates \$150,000 for the fiscal year ending June 30, 1920, to carry out the provisions of the Act. The Secretary of the Treasury is vested with full power to enforce the Act, with certain duties. If merchandise imported into the United States has been secured from the foreign owner or manufacturer otherwise than by purchase, the sales price, plus the cost, when not included in such price, of the package and the packing charges, will be the price at which the person importing the merchandise sells or agrees to sell the goods in the United States, plus the cost, less all expenses, included in said price incurred from the place of shipment or manufacture in the foreign country to the place of delivery in the United States. The foreign home value or the value to countries other than the United States, as the case may be, shall be taken at the date of the sale or purchase of the goods exported to the United States. Section nine provides that merchandise, whether dutiable or free, whenever exported to the United States of the class or kind provided for in the Act, and the sales price is less than the foreign home value, or in the absence of such value is less than the value

to countries other than the United States, there shall be levied and collected, in addition to the duties on imported merchandise prescribed by law, a special duty in an amount equal to the difference between the sales price and the foreign home value. If the collector shall deem that the home value as reported by the appraiser be too low, or shall deem the sale price of such merchandise to be too high, he may within six months after the date of such report and return appeal to reappraisement, which shall be made by one of the general appraisers. In all cases of reappraisement the collector shall transmit the invoice and all the papers appertaining thereto to a board of nine general appraisers for determination. The bill provides for a fine of \$5,000, or imprisonment of two years, or both, as a punishment for violation of the provisions of the bill.

ANTI-TRUST

S. 3288.—Proposed by Mr. Curtis, which amends the Act to regulate commerce as follows: "That carriers affected by any order of the commission made under authority of this section shall be, and they are hereby, relieved from the operation of the anti-trust laws, as designated in section 1 of the act approved October 15, 1914, entitled 'An Act to supplement existing laws against unlawful restraints and monopolies, and for other purposes, and of all restraints or prohibitions by law in so far as may be necessary to enable them to effect any division of traffic or earnings between such carriers so approved by order under and pursuant to the foregoing provisions of this section.'"

FEDERAL TRADE COMMISSION

S. Res. 217.—Submitted by Mr. Watson, Referred to the Committee on Audit and Control, from which Committee it was reported, without amendment, December 3rd, considered, amended, and agreed to as follows: "Whereas it is charged that a number of the employes of the Federal Trade Commission have been and now are engaged in socialistic and bolshevistic propaganda and in furthering the organization and growth of socialistic and bolshevistic organizations; and

Whereas if Bolshevism, with all that it implies, is to be met and overcome in our country it must be done by first ousting all its adherents and advocates from public office, therefore be it

Resolved, That the Committee on Interstate Commerce of the Senate is hereby authorized and directed, by subcommittee or otherwise, to inquire into and report to the Senate at the earliest practical date upon the truthfulness of these charges; that said committee may conduct such inquiry by subcommittee or otherwise; and shall be empowered to hold sessions during the recess of the Senate; and for this purpose the committee or any subcommittee thereof is empowered to send for persons and papers, to

employ whatever assistance either clerical or legal, they deem necessary to aid in conducting the investigation, to administer oaths, to summon and compel the attendance of witnesses, to conduct hearings and have reports of the same printed for use; and any expense in connection with such inquiry shall be paid out of the contingent fund of the Senate upon vouchers to be approved by the chairman of the committee.

The committee is further directed to inquire generally into the work of the commission, the procedure it has adopted, the authority it has exercised, its attitude toward the business of the country and make report respecting the value of the commission as a governmental agency.

RAILROADS

S. 3554;—*Federal Railroad Co.* Introduced by Mr. Norris, referred to the Committee on Interstate Commerce. By the provisions of the bill the Federal Railroad Company is incorporated and is authorized to lay out, locate, construct, furnish, maintain, operate, and enjoy a railroad or railroads, together with the necessary telegraph and telephone lines and all necessary and useful appurtenances anywhere within the United States. The capital stock of the corporation is to be \$10,000,000,000 of common stock, and, in addition thereto, an amount of employees' stock not exceeding in par value one-fourth of the book value of the property owned by the corporation. This employees' stock shall be issued to actual employees of the corporation only. Any holder of such stock ceasing to be an actual employee of such corporation shall not be entitled to any dividend on such stock, but the stock shall be taken up by the corporation at par and accrued interest. All stock is free from taxation both national and state, except the income from the amount of stock exceeds \$50,000, when it is subject to the Federal income and inheritance taxes. The corporation is given authority to exercise the right of eminent domain in condemnation proceedings; to acquire any railroad now in operation either by private purchase or condemnation. The business of the corporation is to be transacted by a board of directors to be appointed by the President by and with the advice and consent of the Senate, who shall receive \$12,000 per year. Section 6 of the Act provides that it shall be the duty of the board, on behalf of the corporation, to acquire all the railroads of the United States as rapidly as it is able to sell stock for the purchase of same. It shall build such connecting lines as may be necessary to coordinate all the railroads which it acquires, so that they may be operated with the least expense and in the most efficient manner. It is the avowed intention of this Act to coordinate and consolidate all the railroads of the United States under one management in order to reduce transportation to as near cost as is possible, and to eventually retire all rail-

road bonds and indebtedness of any kind and all common stock of the corporation. Any profits made by the corporation shall be used in paying off bonded indebtedness, and to pay for additional railroad properties purchase, etc. \$500,000 as appropriated to care for the expense of organizing the corporation.

SILVER

H. R. 10969.—Introduced by Mr. Platt, referred to the Committee on Coinage, Weights and Measures, revises section 3513 of the Revised Statutes, so far as it relates to the weight of the half dollar, the quarter dollar, and the dime, by striking out the words "twelve grams and one-half of a gram" and inserting in lieu thereof the words "one hundred and fifty grains troy," so that the amended sentence will read: "The weight of the half dollar shall be one hundred and fifty grains troy." It also provides for the recoinage of all half dollars, quarter dollars, and dimes, to conform to the above standard.

COAL

H. J. Res. 254.—*Government Control.*—Introduced by Mr. Keller, referred to the Committee on Appropriations, providing as follows:

To relieve the present coal shortage and to provide for the uninterrupted production of coal.

Whereas an extremely critical condition exists because of the non-production of coal; and

Whereas the representatives of the Government, the coal operators, and the miners, in conference assembled, have been unable to arrive at a satisfactory adjustment of the grievances set forth; and

Whereas the very foundation of our economic existence is endangered because of the shortage of coal: Therefore be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, that this Congress recommends that the President of the United States take possession and assume control of the bituminous coal mines now idle, under the powers granted him during the war emergency; that a call be issued to all miners to return to work under the following agreement: That the Government operate the mines; that the increase of 14 per cent. offered the miners be accepted; that the Government will conduct a thorough investigation into the profits of the mine operators with a view toward increasing the wages of the miners, if found practicable under the present price of coal, and if not, that the Government establish such a price as will permit of a wage being paid miners commensurate with the increase in the cost of living.

Sec. 2. That such sum or sums of money as are necessary to carry out the provisions of this Act are hereby appropriated out of

moneys in the Treasury not otherwise appropriated.

GOLD

H. R. 11226.—Introduced by Mr. McFadden, referred to the Committee on Banking and Currency, amending the Act of April 23, 1918, an Act to conserve the gold supply of the United States, etc. Section one is amended as follows:

Section 1. That the Secretary of the Treasury is hereby authorized and directed from time to time to melt or break up and sell as bullion any standard silver dollars now or hereafter held in the Treasury of the United States. Any silver certificates which may be outstanding against such standard silver dollars so melted or broken up shall be retired at the rate of \$1 face amount of such certificates for each standard silver dollar so melted or broken up. Sales of such bullion shall be made at such prices not less than \$1 per ounce of silver, 100 per cent fine, and upon such terms and under such regulations as shall be established from time to time by the Secretary of the Treasury.

Section 2. That the Federal Reserve Board is hereby empowered to authorize the Federal reserve banks to issue Federal reserve bank notes in any denominations, including denominations of \$1 and \$2, under such terms and regulations as such board may prescribe, which notes shall be a legal tender in the payment of all debts and dues, public and private, not to exceed \$10 in any one payment, and they shall be subject to all existing provisions of law relating to Federal reserve bank notes."

The bill also amends section 3514 of the revised Statutes as follows:

"Sec. 3514. That the standard for gold coins shall be 90 per cent fine and the standard for silver coins shall be 80 per cent fine; and the alloy of the gold coins shall be of copper, or of copper and silver; but the silver in no case shall exceed one-tenth of the whole alloy, and the alloy of the silver coins shall be of copper."

H. Res. 403.—Introduced by Mr. Mason, referred to the Committee on Ways and Means, which is as follows:

Whereas it is stated in the public press that the Secretary of the Treasury of the United States is considering the proposal of deferring the payment of the interest upon the indebtedness of different nations who were associated with us in the late war with Germany; and

Whereas it is desirable that the Congress and the people should know the facts in regard to the finances of the United States: Therefore be it

Resolved, That the Secretary of the Treasury be requested, if it can be done, consistent with public safety, to inform Congress what proposition along these lines is being considered and what, if any authority said department claims or believes it has for extending such interest or advancing money for the payment of the debts of any other nations.

PUBLIC LANDS

H. R. 111017.—Introduced by Mr. Huddleston. Referred to the Committee on Public Lands. Provides for the creation at Washington of an executive department, to be known as the Department of Land and Natural Resources, the head of which will be known as the Secretary of Land and Natural Resources, to be appointed by the President, by and with the advice and consent of the Senate, who shall receive a salary of \$12,000 per year, and shall have powers and duties similar to the heads and executives of other departments. There shall be a First Assistant Secretary, in charge of matters relating to agricultural land; a Second Assistant Secretary, in charge of matters relating to mineral lands, and a Third Assistant Secretary, who shall be in charge of matters relating to forests and water resources, each of whom shall receive \$7,000 per year. The duties of the department are to take a census and survey of the unused land, mineral, forest, and water resources of the United States and report to Congress and the President with recommendations for the quickest, simplest, and most equitable manner of procedure for the Government to pursue in order to open up for the practical use of returned soldiers, sailors, marines, and citizens these unused lands. This department shall also investigate and report to Congress and the President to what extent and degree it will be desirable to shift the burden of Federal taxation from those things which are the product of labor to the value of land exclusive of improvements, in order that the unearned increment of land which arises from the existence and growth of population shall be diverted from the coffers of private speculators and monopolizers of land and natural resources into the public treasury and to enable the Government to greatly reduce, if not entirely abolish all taxes on the products of labor which now result in such burdensome increase in the cost of living. The Secretary of the department thus created shall organize within the department a Commission of Employment, which shall consist of three members who shall be selected by the Secretary and appointed by the President, who shall arrange to open and use the necessary lands so as to provide immediate employment for all demobilized and unemployed soldiers, sailors and marines. Section three provides that the Bureau of Public Lands, the Bureau of Mines and the Geological Survey and everything connected therewith shall be transferred from the Interior Department to the Department of Land and Natural Resources, also that those divisions of the Census Bureau having to do with the taking of the census of lands, mines, forests and water powers and everything connected with the said divisions of the Census Bureau shall be transferred to the Department of Land and Natural Resources, also the Bureau of Forestry is transferred to the above mentioned department. The Act is effective immediately on date of its passage.

S. 3486.—Introduced by Mr. Smoot, referred to the Committee on Public Lands. Section two of the bill provides that the United States Government assumes, subject to the conditions of the Act, the payment to the several States of sums of money equivalent to the amounts which such States would receive from the taxation of public lands within their respective borders if such lands were owned by individuals. Section three provides that the Secretary shall, as soon as practicable after the passage of the Act and annually thereafter send a statement to the governor, or such officers as the legislature may designate, of every State in which public lands are located, describing the location, size and character of all such public lands in such State, together with such information respecting such lands as he may possess which may be useful in properly determining their value. Section four provides that no payments shall be made to any State under the provisions of the Act until such State has, with respect to the public lands in question, properly assessed such public lands at a rate no higher than that at which similar lands in the State are assessed; applied to such assessed valuation a factor no higher than the tax rate applied to the assessed value of other similar lands; secured in this manner a figure from which shall be deducted any allowances made by such State to its taxpayers in similar cases for prompt payment of taxes, etc. A sufficient sum to carry out the provisions of the Act is appropriated out of any funds of the Treasury not otherwise appropriated.

FIXED NITROGEN CORPORATION

H. R. 10329.—Introduced by Mr. Kahn. Referred to the Committee on Military Affairs, authorizes the Secretary of War to designate any five persons to act as an organization committee, which committee shall specifically state the name of the corporation to be organized, the name of such corporation to be the United States Fixed Nitrogen Corporation, which shall have the power—First to adopt and use a corporate seal. Second, to have succession for a period of twenty years from its organization, unless sooner dissolved by an Act of Congress. Third, to make contracts. Fourth, to sue and be sued. Fifth, to appoint its board of directors and such other officers as may be necessary, etc. The corporation shall be conducted under the supervision and control of a board of directors, consisting of not less than three nor more than eleven members, to be appointed by the Secretary of War. The corporation so organized shall have the power: To purchase and operate United States nitrate fixation plants located at Sheffield, Alabama, and Muscle Shoals, Alabama, together with all real estate used in connection therewith, all tools, machinery, equipment, accessories, and materials, all laboratories, and plants used as auxiliaries thereto, including the fixed-nitrogen research laboratory at Washington, the Waco

Limestone quarry in Alabama, the electric power unit at the Warrior River Station of the Alabama Power Company, etc. They have power to establish other laboratories and plants as they may deem necessary in furnishing the Government at all times with nitrogen products; to sell to the United States such products as may be manufactured for military or other purposes; to sell any or all of its products not required by the United States to producers or users of fertilizers; to enter into such agreements and reciprocal relations with others as may be deemed necessary or desirable to facilitate the production and sale of nitrogen products on the most scientific and economical basis; to purchase, lease, or otherwise acquire United States or foreign patents and processes, or the right to use such patents or processes; to sell and export any of its surplus products not purchased by the United States, or by persons within the United States. They are authorized to use any surplus of available funds not immediately used for the operation, construction, or maintenance of its plants or properties in United States bonds or other securities. The capital stock of the corporation shall be divided into two classes, to be known as common and preferred, the common stock to be without par value, and the company shall have no power to issue stock, except that issued to the United States under authority of this Act. In exchange for the properties purchased or acquired from the United States, and from time to time transferred to the corporation by the President or by the Secretary of War, the corporation shall cause to be executed and delivered to the Secretary of War a certificate for all of the common stock, which certificate shall be evidence of the ownership by the United States of all common stock. In consideration of the issuance of this stock the Secretary of War and the President are authorized to transfer to the corporation all real estate, buildings, tools, equipment, etc., appertaining to the plants and properties to be acquired by the corporation. The corporation shall have the power to issue and sell preferred stock in any amount not to exceed \$12,500,000 of a par value of \$100 per share, such stock to be entitled to 5 per cent dividends. All net earnings of the corporation not required for its operation and development shall be used to pay dividends on outstanding preferred stock; to develop and improve its plants and equipment; to create a reserve or surplus fund until such fund amounts to \$2,500,000, the remainder to be paid into the Treasury of the United States as miscellaneous receipts.

POSTAL RATES

H. R. 10876.—Introduced by Mr. Fess. Referred to the Committee on Post Office and Post Roads, providing that the rates on publications entered as second-class matter (including sample copies to the extent of 10 per cent of the weight of copies mailed to subscribers

during the calendar year) when sent by the publisher from the postoffice of publication, or when sent by news agents to actual subscribers thereto, shall be: In the case of the portion of such publications devoted to other than advertisements, $1\frac{1}{4}$ cents per pound or fraction thereof. In the case of the portion of such publications devoted to advertisements, the rates by pound for delivery thereof in the several zones applicable to fourth-class matter shall be as follows: for the first and second zones, $1\frac{1}{4}$ cents; for the third zone, $1\frac{1}{2}$ cents; fourth zone, 2 cents; fifth zone, $2\frac{1}{4}$ cents; sixth zone, $2\frac{1}{2}$ cents; seventh zone, 3 cents; for the eighth zone $3\frac{1}{4}$ cents. Section four of the bill provides for the appointment of a joint commission of Congress consisting of three Senators, to be appointed by the President of the Senate, and three Members of the House of Representatives, whose duty it shall be to investigate, consider, and report to Congress its findings and recommendations with reference to those operations of the Post Office Department that have to do with the carrying of second-class matter, with a view to ascertaining the actual cost of this service in its various branches and of determining the principles upon which the charges for such service should be equitably assessed. The bill appropriates the sum of \$25,000 to carry out its provisions.

MISCELLANEOUS

H. J. Res. 250.—National Holiday. Introduced by Mr. Kendall, referred to the Committee on the Judiciary, providing that:

Declaring November 11 of each year to be a national holiday.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That in commemoration of the glorious victory won for the liberty of the world by the American forces and the allied armies of Europe in the conflict against German autocracy and militarism, and to perpetuate for all times the unparalleled bravery, courage, and valor of those forces by which a complete triumph was achieved on November 11, that day be, and the same hereby is, declared to be in each succeeding year a national holiday throughout the United States and the possessions and Territories thereof.

That this national holiday be designated American Legion Day.

H. R. 10737.—Fuel Control.—Introduced by Mr. Sabath, referred to the Committee on the Judiciary, prohibiting the manipulation of the prices of the necessities of life. The bill provides that it shall be unlawful for any person in combination with other persons to fix a price on the necessities of life usually entering into interstate or foreign commerce, whereby unrestricted competition among producers, middlemen, or routes is interfered

with. Section two makes it unlawful for any person in combination with other persons to agree to sell or dispose of any article or commodity, or any food product or article of trade or merchandise usually used as a necessary of life, above a common standard or a fair and reasonable price. Section four provides that the Commissioner of Internal revenue is authorized to confiscate any food so handled, and to dispose of such confiscated articles at a time which the court shall order. Section eight provides for a fine of not less than \$1,000 and not more than \$10,000, or imprisonment not exceeding three years, for a violation of the provisions of the Act.

H. R. 9177.—Fuel Control.—Introduced by Mr. Candler, referred to the Committee on the Judiciary, to prevent profiteering by regulating the distribution and prices of foods, clothing, fuel and other necessities of life. The Act shall be known as the "United States Necessaries Control Act." The bill defines the business of buying, shipping or selling necessities in commerce as a matter of public interest, and that it shall be unlawful for any person engaged in such business to make an unreasonable profit, or an unreasonable rate of commission for his services in connection with the distribution thereof. Section four makes it unlawful for any person to buy, sell, or ship any necessary for the purpose of hoarding, and hoarding is defined as goods being held or contracted for in a quantity in excess of his reasonable requirements for use or consumption by himself and dependents for a reasonable time; Provided, That any accumulating or withholding by any farmer or gardener or cooperative association of farmers or gardeners, including live stock farmers, of the products of any farm, garden or other land owned, leased, or cultivated by him shall not be deemed to be hoarding within the meaning of the Act. Any person violating this provision of the Act shall be subject to a fine of \$2,000 or imprisonment for two years or both. Each person engaged in the business of shipping, selling, or buying any necessity in commerce shall keep such records and statements of account and make such reports and returns, verified under oath, as will fully and correctly disclose all make such reports and returns, verified under oath, as will fully and correctly disclose all transactions involved in his business. Section nine provides that in order to carry out the provisions of the Act, any officer or agent of the President may, at any time during the usual hours of business, enter any factory, plant, establishment or other place in which any necessary is shipped or sold for shipment and may inspect the contents and operations, and any papers, letters or other documents relative thereto. The bill appropriates a sufficient sum of money to carry out the provisions of the Act out of the money in the Treasury not otherwise appropriated.

N. 3501.—Introduced by Mr. Capper. Referred to the Committee on Post Office and Post Roads. This bill is identical with the Bill introduced in the House by Mr. Anthony, reviewed in these columns.

H. R. 10960.—*Second Class Postal Privilege.*—Introduced by Mr. Anthony. Referred to the Committee on Post Office and Post Roads. Provides, That until after July 1, 1920 no newspaper or periodical shall be carried in the United States mails at the rates provided for second-class postage, which shall exceed in size, for daily newspapers twenty-four pages, Sunday newspapers thirty-six pages, weekly periodicals seventy-five pages, and monthly periodicals one hundred pages.

H. R. 11339.—*Food and Fuel Control.*—Introduced by Mr. Brand, referred to the Committee on the Judiciary. It shall be deemed criminal to sell or purchase foodstuffs either for human or animal consumption or use and of fuel that are not intended to be actually delivered by the seller or received by the buyer; to send by any person, or association of persons, any message by wire, telephone, mail, or otherwise, quoting prices on or proposing to enter into a contract for the purchase or sale for future delivery of any such foodstuffs or fuel without intending that the same shall be actually delivered or received; for any person to purchase foodstuffs or fuel with intent not to sell the same in the usual course of business, but to store and hold the same with intent to increase the price for the purpose of receiving unreasonable or excessive profits in the sale of same; to publish any false or misleading market quotations. Section 2 of the bill provides that the bill applies to persons engaged in interstate commerce transactions, and to all transactions connected with interstate commerce, but that it does not apply to any person who produces foodstuffs by cultivation of lands. Section 4 of the bill provides that the refusal by any dealer or any person regularly engaged in such business to sell foodstuffs and fuel when propositions are made in good faith for sale or purchase at reasonable and market prices and they then and there have such foodstuffs and fuel for sale or purchase, shall be evidence on the part of the person so refusing of a fraudulent intent to increase the price for the purpose of selling same at an unreasonable and excessive figure. Any person convicted of the violation of the Act shall be guilty of a felony and shall be punished for each offense, on conviction thereof, for a term of servitude not less than one nor more than twenty years in the penitentiary.

H. R. 11337.—*Soldiers.*—Introduced by Mr. Smith of Michigan, referred to the Committee on Ways and Means. The bill provides that there shall be paid to every soldier, sailor or

marine who shall have been enrolled and served in the World War after April 6, 1917 and prior to November 11, 1918, the sum of \$1 for each day over sixty days he shall have served. Payment shall be made in tax-exempt coupon Government bonds of the denomination of \$25, and shall draw interest at the rate of $3\frac{1}{2}$ per cent.

Nevada Mine Output in 1919

The value of the gold, silver, copper, lead, and zinc mined in Nevada in 1919 was about \$23,634,000, according to preliminary figures compiled by Victor C. Heikes, of the United States Geological Survey, Department of the Interior. This is a decrease of over \$24,894,124, or more than 50 per cent, from the output of 1918, when the mines produced \$48,528,124. The decrease was general, but in point of value the largest decrease was that in copper, which amounted to more than \$19,114,000.

The gold output of Nevada decreased from \$6,619,937 in 1918 to about \$4,718,000 in 1919, a decrease of about 29 per cent. The Goldfield Consolidated has for several years held the record of being the largest gold producer in Nevada, but in 1919 the company ceased operations and the property was turned over to a developing company. The output of gold from the Tonopah district also decreased notably, amounting to only about \$759,000, against \$1,287,745 in 1918. The Elko mine, at Jarbidge, was the largest producer of gold in the state. Other gold mines that had an output of more than \$200,000 each were the Nevada Consolidated, Fairview Round Mountain, Florence Goldfield, and Consolidated Virginia. The White Caps, Round Mountain, Elko Prince, Tonopah Belmont, Tonopah Extension, Ophir Silver, and Olympic mines also produced considerable gold. There was a decided decrease in gold from the Seven Troughs and Rochester districts. The mines of the Comstock district were active, though their output of gold was somewhat less than in 1918, when they produced \$518,154. In Clark County the Techatticup mine produced much gold, as well as silver.

Ontario's Gold Production

In Canada, the province of Ontario is the largest producer of gold, and its comparatively recent rise to a position of prominence has been very marked. In 1911 the output amounted to \$42,625, while in 1912 it jumped to \$1,745,292, and in 1916 attained a maximum of \$10,180,485. Since that time the production has decreased and last year amounted to \$8,501,705. The chief gold mines in Ontario are in the Porcupine district.—Bureau of Mines.

INDUSTRIAL RELATIONS AND WELFARE

Believing that the members of The American Mining Congress will be interested in a digest of the opinions expressed by our national representatives and in the attitude of the press of the United States upon important questions, we shall attempt each month in this department to place before our readers a resume of the discussion of questions of general interest.

Senator Underwood, in discussing the strike provision of the Cummins Railroad Bill, made the following statement:

Since the dawn of civilization, no more difficult problem has faced humanity than the problems involved in labor and its employers. Up to the present time the contest between the two has been settled by force. Through the last half century labor has been fighting for itself, until today organized labor constitutes the effective force in human endeavor, the dominant force between labor and capital. I am not going to contend as to whether the cause of labor is just or not. I think it is safe to say that some times a strike is most just for a most just cause, and at other times a strike is without reason or justice behind it. The public, the hundred millions of people in the United States, are not those who determine whether a strike is just or unjust. They merely stand to pay the penalty, and they will have to pay it some day, beyond peradventure of a doubt, if the Congress of the United States is unwilling to meet the situation and put remedial legislation on the statute books.

Some men speak of the so-called right to strike, as if it were a human right, a right that belonged to men like the right to live, the right to breathe, the right to work in an individual capacity. Organized labor itself repudiates the foremost right of man, the right to work, when it stands for a closed shop.

The right to strike and the right of the individual to quit his employment are two very different things. One is the exercise of individual liberty, the other is the exercise of aggregate force to accomplish a purpose. One is a negative force that hurts no man, the other is an active force that injures many.

Mr. Underwood read into the record the statements from hearings on the Railroad Bill, in which he attempted to secure a reply from Mr. Gompers to the question: "Is there any other way that a universal railroad strike or the danger of it can be avoided if the Government itself does not act?" Mr. Underwood

PROFIT AND LOSS

By A. H. Cram



brings out the fact that Mr. Gompers, the supreme head of organized labor in the United States, declares that there is no other way to avoid a universal strike except by some such legislation as the strike provision in the Cummins Bill, and, at the same time, denies that this bill will do it, but says there is no other way.

Mr. Underwood stated that the question which confronts Congress today is whether or not the Senate of the United States intends to surrender the initiative to recognize that there is no way to avoid the calamity of a universal strike except by law, and then refuse to pass the law. Mr. Underwood goes on to say that since 1916 the wage of the railroad workers of America has increased a billion dollars!

If those who contend that increasing freight rates one dollar reflects five dollars into the cost of the product when it reaches the consumer are correct, then we are to believe that the increase of one billion dollars of the labor wage of the American

railway employees was instantly reflected in the freight rates, because it could not be paid anywhere else.

Can it be that the Congress of the United States, because it wants to be just to labor, because it wants to be fair to labor, can ignore labor itself, ignore the clerk in the counting house, the ditch digger in the street, the laborer on the farm, and say that an organization in the United States composed of not over two million men can reflect their will and through the power of threatened strike force billions of dollars into the cost of living of the American people?

This is the issue at which I am looking. I do not stand here holding a brief against labor. I know that when labor ceases to battle upward the Nation is dead. But when one class of labor desires to reserve to itself the right to stand independent of the Government, to exercise its right or so-called privilege to strike, in order that it may enforce additional burdens on the masses of the American people, then I say the time and place have come when it is the duty of the Government of the United States to function in the matter.

Senator Thomas, of Colorado, in discussing the Cummins Railroad Bill, said as follows:

No labor organization of which I have any knowledge is incorporated. What they do, therefore, they do without attending responsibilities which the law imposes upon organized effort, or upon individuals who can respond in damages. It is true the Supreme Court of the United States in the Danbury Hatters case enforced a judgment obtained by the hat company against a certain body of men who struck, but every judge connected with that decision has been subject to the severest personal criticism, and in some instances, personal abuse by the organizations as a violation of their inalienable rights and as inflicting upon them cruel and unjust burdens.

Suppose that some operator should bring suit tomorrow against that particular union in his immediate vicinity belonging to the United Mine Workers of America for loss and damage inflicted upon him in consequence of the coal strike. How far would he get with it? Where would he find a jury possessed of a sufficient sense of independence, freedom, and exemption from the influence of the great body of the organization to respond in damages? How long would a suit in the City of Youngstown or Pittsburgh last if brought against Mr. Fitzpatrick and Mr. Foster, or against the organizations which they represent for damages? Possibly a judgment might be obtained, but no remedy, except in the abstract.

The Adamson Law was enacted upon the eve of a nationwide strike of railroad trainmen. Suppose it had been put into operation, it would have tied up the country with the resulting great loss to individuals, companies and sections of the community. But where was any redress? If a railroad company determines to suspend operations until their ideas of a tariff rate shall be accepted by the public, a remedy exists. Suits may be brought against them and their property may be taken under execution to satisfy any judgment obtained. But not so with the organization. Hence, if I am right, and I think I am, there is all the more need for preventive legislation, if such legislation can be enacted and afterward enforced.

Senator Townsend, in discussing the strike provision of the Cummins Railway Bill, made the following statement:

The laboring man is entitled to a reasonable wage or salary for what he actually contributes, but it is unthinkable that any longer in this country employers and employees should be able to get together and fix wages and prices, without regard to the rights of those who pay them. It is to me a monstrous thought that capital and labor can, without let or hindrance, starve and freeze and ruin the people in a struggle for supremacy.

Since I have been in Congress I have six times introduced a bill in the House and Senate providing for compulsory investigation of the questions growing out of controversies between capital and labor. Every time that measure has been opposed by both capital and labor. Capital opposed it because it might involve an investigation of the accounts and methods of business. Labor opposed it because it might lead ultimately to compulsory arbitration. I favor compulsory investigation, believing that the public, when properly informed, will settle all these great questions between capital and labor. So when the question came before the committee, I was perfectly satisfied to provide for the boards for settlement of controversies between employers and employees, and allow public opinion to do the rest.

Senator Jones, in a discussion on the floor of the Senate concerning bolshevism, incorporated in the Record the constitution of the Bolshevik party in Russia, which we submit as a matter of interest:

The salient features which constitute the program of bolshevism, as it exists today in Russia and is presented to the rest of the world as a panacea for all ills, may be summarized as follows:

(1) The repudiation of democracy and the establishment of a dictatorship.

(2) The confiscation of all land and the improvements thereon.

(3) The confiscation of all forests and natural resources.

(4) The confiscation of all live stock and all agricultural implements.

(5) The confiscation of all banks and banking institutions and the establishment of a State monopoly of the banking business.

(6) The confiscation of all factories, mills, mines, and industrial institutions and the delivery of the control and operation thereof to the employees therein.

(7) The confiscation of all churches and all church property, real or personal.

(8) The confiscation of all newspapers and periodicals and all mechanical facilities and machinery used in the publication thereof.

(9) The seizure and confiscation of all public meeting places and assembly halls.

(10) The confiscation of all transportation and communication systems.

(11) The confiscation of the entire estate of all decedents.

(12) The monopolizing by the State of all advertisements of every nature, whether in newspapers, periodicals, handbills, or programs.

(13) The repudiation of all debts against the government and all obligations due the nonbolshhevik elements of the population.

(14) The establishment of universal compulsory military service regardless of religious scruples and conscientious objections.

(15) The establishment of universal compulsory labor.

(16) The abolition of the Sunday school and all other schools and institutions that teach religion.

(17) The absolute separation of churches and schools.

(18) The establishment, through marriage and divorce laws, of a method for the legalization of prostitution, when the same is engaged in by the consent of the parties.

(19) The refusal to recognize the existence of God in its governmental and judicial proceedings.

(20) The conferring of the rights of citizenship on aliens without regard to length of residence or intelligence.

(21) The arming of all so-called "tool-ers," and the disarming of all persons who had succeeded in acquiring property.

(22) The discrimination in favor of residents of cities and against residents of the rural districts through giving residents of cities five times as much voting power as is accorded to residents of rural districts in such elections as are permitted.

(23) The disfranchisement of all per-

sons employing any other person in connection with their business.

(24) The disfranchisement of all persons receiving rent, interest or dividends.

(25) The disfranchisement of all merchants, traders and commercial agents.

(26) The disfranchisement of all priests, clergymen, or employees of churches and religious bodies.

(27) The denial of the existence of any inalienable rights in the individual citizen.

(28) The establishment of a judicial system exercising autocratic power, convicting persons and imposing penalties in their absence, and without opportunity to be heard, and even adopting the death penalty for numerous crimes and misdemeanors.

(29) The inauguration of a reign of fear, terrorism, and violence.

Senator Pomerene, in an address before the Association of Life Insurance Presidents on December 5, made the following statements:

I recognize that labor has not always received its portion of the product of its hand. I would resolve all doubts in its favor. I would deal with it, not only justly, but liberally at all times. I recognize that there are many instances in which the public has not been put in possession of the facts, but when the light of publicity is thrown on any controversy which relates to the welfare of either the individual or class, injustice and wrong will wither away before the light of public opinion. And when the Government itself is challenged it must accept the issue, or it ceases to carry out the purpose for which all government is designed.

Must 110,000,000 Americans submit to all the distress and inconvenience consequent upon the failure of fuel supply when the hills are full of coal?

Every reasoning man wants the miner, not only to have a fair wage, but a good wage and good working conditions.

Must Government control this conflict or shall this conflict control Government?

It is sufficient to say that 110,000,000 free Americans are not living in Russia, and that they will not be terrorized by the methods of Trotski, a Lenine, or a Lewis. If these would-be autocrats are not conscious of the intensity of the bitter feeling against their methods, let them go out along the highways and byways, or in the cities and towns, and inquire of the public, "What say you."

The American people did not hesitate to raise an army of 4,000,000 men, or to send 2,000,000 of them more than 3,000 miles across the sea to help destroy the imperial autocracy of Germany, and they will see to it, in an orderly and legal way, that

the would-be autocrats of this country—whether they represent capital or whether they represent labor, shall not dominate or compel 110,000,000 people to do their bidding.

I cannot speak for others, but as for me, when men representing any interest, I care not what, come before the Congress of a sovereign people with suggestions that they will not comply with the law if it is passed, they overstep the bounds of propriety, and they weaken rather than strengthen their cause. All men have the right to petition or to remonstrate. No man has the right to threaten or intimidate. The duty of good citizenship demands that if employer and employee cannot adjust their differences they should be submitted to a proper tribunal for decision, rather than that an entire industry should be suspended while they continue to quarrel.

Congressman Longworth, in discussing the Fordney Anti-Dumping measure, in commenting upon that portion of the President's address in which he stated that "Europe is in no position at the present time to ship gold to us," said as follows:

I listened to the reading of that portion of the President's message with feelings of the keenest disappointment. I had sincerely hoped that there might have been cooperation between Congress and the Executive in the passage of some tariff measure designed to save at least those industries which are of peculiarly war origin and whose destruction upon resumption of international competition without legislative assistance I fear is inevitable. The only exception the President makes is in the case of dye stuffs, and for that I am deeply grateful, for it insures the final enactment of some such measure as we passed here in the House not long ago; but so far as any other tariff measures are concerned we might as well face the inevitable. They are as dead as door nails.

In commenting upon that portion of the President's address which related to the provincial standards and policies of the past which have held American business as in a straight-jacket, which must yield and give way to the needs and exigencies of the new day in which we live, Mr. Longworth said as follows:

I confess I find it difficult to adjust my mind to the proposition that in the future, as American business is now full-grown and we have become the greatest capitalists in the world, that therefore we must at

once cast off "that straight-jacket" of "provincialism" that has made us what we are. If the maintenance of our policy, established from the time of our beginning as a nation, of non-interference in disputes between other nations in which we have no concern is "provincialism;" if insistence upon the Monroe Doctrine and of our right to determine for ourselves who shall and who shall not be admitted to our country and our citizenship is "provincialism;" if concern for the retention of the American market for the products of American industry and American labor is "provincialism," then I for one am willing to stay provincial for a while longer.

Congressman Wingo, in discussing the Anti-Dumping Bill, said as follows:

There is a practical middle ground between the absolute free trader and the man who wants a prohibitive tariff that will shut out everything. Should our tariff laws be used as an absolute power to prohibit nations from sending us the only thing they can pay us in; that is, commodities?

A suggestion has been made that as a better way, instead of having a tariff that would be low enough to permit England and France to meet the balances on commodities, which would at the same time permit Japan to flood us, we had better have a separate reciprocal agreement with those countries that we want to sell to.

Congressman Kitchin, in discussing the Anti-Dumping Bill, said as follows:

It is claimed that every country on earth can make and sell goods cheaper than we can in the United States; that the foreign manufacturer can ship across the seas, pay freight to the interior, and undersell here our own manufacturers; that the labor of other countries, even the cheap labor of Japan and China, is more efficient than the high priced skilled labor of America. We Democrats have more confidence in American industry, more confidence in the genius and business capacity of the American manufacturer; we have got more confidence in the efficiency and skill of American labor. Republicans demand a prohibitive tariff to prevent any foreign competition. Democrats favor a competitive tariff, a tariff that will admit fair competition. We have confidence in American industry that it can stand, that it is able to meet fair competition from every quarter.

Former **Senator Shafroth**, in an article upon the high cost of living, made the following statement:

The principal cause of the high cost of living is the fact that nearly all the European nations have been compelled to abandon redemption of their credit money in gold, and to issue in lieu thereof, irredeemable paper currencies, thereby increasing the demand for and the purchasing power of gold and hence increasing the price of everything that gold will buy.

Senator Thomas, in discussing the cost of strikes, made the following statement:

Since the first of January it is estimated that strikes have cost the Shipping Board a total of \$37,000,000.00. There are included marine and harbor strikes, longshore strikes and shipyard strikes. These have occurred on the Atlantic, Pacific and Gulf coasts, but the results of the coal strike are not included.

Samuel Gompers, president of the American Federation of Labor, recently made this statement:

America has come out of the war renowned. It is more than a country; more than a continent; more than a name to call upon for freedom and justice to men. It is an ideal; the apotheosis of all that is right. . . . We realize fully that here in the United States we have not yet reached the acme of perfection, industrially, politically, judicially, or socially. But that is not a reason why we should be lacking in appreciation of that which has been accomplished. Regardless of what a man's philosophy may be, surely no reasonable man or woman now believes that we can get on very long, or very successfully, without some law and some authority vested somewhere. . . .

Democracy must be entrenched in the true freedom of the people, maintained by justice, law and order.

Senator Wesley Jones, of Washington, in discussing the proposed water-power legislation in the Senate, said:

If ten years ago, instead of enacting restrictive laws which have prohibited development of our water powers, Congress had invited their development through fair and reasonable terms, the beginning of the World War would have found the United States with 20,000,000 developed hydroelectric power instead of 5,000,000. The utilization of even one-third of the enormous amount of energy latent but now wasting in our falling waters would make the United States the greatest manufacturing country in the world.

Senator Thomas, in discussing the industrial situation, had incorporated in the Congressional Record a letter from Leslie M. Shaw:

The ranks of organized labor seem to be divided, but the division is only seeming. The two factions are working for identically the same end—absolute control of America. The conservatives, led by the president of the American Federation of Labor, seek victory through kind words, diplomacy, and stealth. The radicals, more honest and more brave, prefer an open fight, with its attendant bloodshed. Grant what either element of organized labor demands and there will be little left beneath the flag which the fathers called liberty. Allow the same men to control iron and steel workers, coal miners, railway operatives, not to mention the thousand other industries, and less than 100 ambitious labor leaders can and will starve and freeze 100,000,000 liberty-loving, but liberty-forsaking, Americans into abject obedience. Put the radical element of unionism in control and it will confiscate all property. The conservative element will content themselves with the confiscation of earnings. The one will kill the goose; the other will appropriate only her eggs.

I am disposed to believe it will be better for America if the reds and their deluded sympathizers control the American Federation of Labor. Then, and then only, will the American people appreciate the situation as it actually exists. Nothing less will awaken them, and it seems to me better to settle the issue now, when all the world is similarly tormented, than to defer it until other nations are prepared to monopolize the industries of the world while we welter.

George H. Cushing, Managing Director of The American Wholesale Coal Association, in a recent address, made the following statement:

We cannot close our eyes to the fact that this schedule of demands by the miners' union is a part of the demand of all labor upon all capital. It is of a piece with the labor movement everywhere. We cannot, therefore, think intelligently about this mine-labor situation unless we know the true inwardness of the whole labor movement. I have sifted that down, in my own mind, to two opposing propositions.

The employer says that he has to

sell his product for a given price and that he cannot figure accurately that selling price unless he knows accurately what the cost of it is. Therefore, the employer says that he must pay for what is actually done, without regard for the time taken to do it. If it is a ton of coal which he has to sell, he says he must pay for the labor of producing that ton of coal a certain fixed amount, regardless of whether it takes the miner five minutes or a day to produce it.

The employe, on the contrary, has said that he must be paid for the time he spends, without reference to what he does within that time.

One side of the controversy proposes to pay for results. The other side insists upon being paid for time. That has been, to my knowledge, the outstanding difference between capital and labor for the last thirty years.

Each side has insisted that its point of view was correct. Each side has built up machinery to force the other to accept that point of view. From time to time, both sides have gone to the legislative bodies to ask that a law be passed which in effect would arbitrate this dispute in favor of the supplicant.

Whenever a legislative body has undertaken to have anything to do with this question, it has not striven to harmonize the points of view which were responsible for the opposing pieces of machinery. Instead, it has simply added strength to the machinery of one side or the other. Thus, the tide of battle has turned to favor first one side and then the other as that side increased the strength of its piece of machinery.

The labor element now sees that the stoppage of immigration has vastly strengthened its position. It sees that it has the nation at a disadvantage. The tide of battle has turned definitely in labor's favor. While things are favorable to them, the workers are prone to get everything out of it that they can. They have even demanded that their temporary advantage be perpetuated. To that end, they have demanded that the Government nationalize certain industries. Coal is included in their list.

It seems to me that it is about time to stop building more machinery to carry on this old war. It seems to me it is time to begin to think of a compromise basis for compensation which shall strike a mean somewhere between paying for results only and paying for time spent only. If we can effect that sort of a compromise, we should be able to make the worker and

the capitalist partners in the business instead of competitors who are quarreling perpetually over the division of the price that is paid for the finished product. It is to that goal that the thought of the nation should now be turned.

Oil and Gas News points out four important points in a review of oil industry:

A—The United States will supply an increased amount of petroleum sufficient for the nation's expanding needs probably not beyond 1930, when we must import large quantities from other countries.

B—The maximum production of petroleum within the limits of the United States is almost certain to be reached in the second half of the next decade.

C—America's supply of petroleum will within five years be so largely supplemented by shale oil—to be mined through a new and cheaper process—and the lighter oils from tar, so that serious danger of an oil famine doesn't actually exist.

D—The maximum production of petroleum from world oil fields cannot be reached for many years, and before that time the western hemisphere alone will be producing more crude oil every year than all the oil fields of the globe produced in 1919.

Upon the United States, Mexico and Russia will fall the burden of supplying the bulk of the world's petroleum that will be used in the next fifteen years. It is to the former that most of the petroleum-consuming nations must continue to look for the finished product.

The trail-blazers of the American oil fields who began their work at Bradford, Pa., over sixty years ago have since that time been working steadily in a south-by-west line, always in the direction of Mexico.

Other oil fields—and great ones, too—will certainly be discovered.

And the year 1920 will open auspiciously for the petroleum industry, with prices on an upward trend, the world demand greater than supply, and other nations looking to the United States to continue mining at least two-thirds of the world's oil.

As a matter of record it should be remembered that the mining of oil is a twenty-four-hour-a-day industry. Pipe lines operate on that basis. Pumps are going night and day. Drillers are working steadily.

TRANSPORTATION

Under this heading THE MINING CONGRESS JOURNAL will hereafter carry a concise review of various orders, opinions and reports affecting freight rates throughout the country issued by the Interstate Commerce Commission and the Railroad Administration or any organization that may be made by law to succeed in any way to the functions of these two departments. The purpose is to get before our members the principal government mandates which affect our commodities, with a view to eliciting inquiries. It is not practicable to include much detail, but we are so equipped that we can give, upon inquiry, a full and complete analysis of any of the traffic problems which are brought to our attention. We hope that this chapter will be of interest and that you will advise us of your problems in order that we may give to each one the personal and complete attention which it cannot have in a review of this character.

Decisions of the Interstate Commerce Commission

Loss and Damage Claims.—The bill of lading in common use by all carriers in the United States has for some time carried a provision requiring, except in certain instances, that claims for loss and damage be made in writing to the originating or delivering carrier within six months after delivery of the property and that suits for loss and damage be instituted only within two years and one day after delivery of the property. The result of this provision was that in many instances the carriers consumed so much time in their investigation after a claim had been seasonably filed that sufficient time was not left to bring suit when it was ultimately declined. This left the shipper without recourse. Some carriers adopted the policy of refusing to pay these claims after the two years and one day, even though they were meritorious, and finally, in order to make the practice uniform, the Director General instructed all carriers under his control to refuse all

claims not settled or sued upon within the two years and one day. What is known as the "Decker Case" was brought before the commission, attacking the reasonableness of this bill of lading provision. There were a great many interveners in this case and practically all carriers in the United States were made defendants. The commission has now ruled that defendants' bill of lading provisions with respect to the filing of claims or the institution of suits on account of loss, damage or delay, do not prohibit the payment of meritorious claims if filed seasonably with the carrier after the two-year-and-one-day period has elapsed. The carriers have been directed to modify the bill of lading in accordance with these conclusions.

Distribution of Coal Cars.—In the case of Gallatin Coal & Coke Company v. L. & N. R. R. Co., et al., the commission has found that the complainant is not prejudiced in so far as defendants' practices with respect to furnishing coal cars and transportation facilities are concerned. The complainant is located on the L. & N. R. R. and competes with the Grayson mine, which is located on the L. & N. and the Big Four. Complainant's contention was that the Grayson mine was not entitled to the rating of a mine served by two carriers because the Big Four entered it over the tracks of the L. & N. under a trackage arrangement. In dismissing the complaint the commission said:

Unquestionably, carriers may not through trackage arrangements extend preferential treatment to one shipper to the prejudice of another, or continue such an arrangement if it develops into an undue advantage to a favored shipper. Transportation by the Big Four of coal from the Grayson mine to Eldorado over Louisville & Nashville rails, in substitution for the proposed private spur track, cannot be condemned unless accompanied by consequences, actual or potential, which unduly prejudice complainant.

In another decision, dismissing the complaint of the Northern Coal Company v. M. & O. R. R. Co. and the Director General, the commission said:

The record does not show that the complainant could have used more cars than those actually furnished or that in the distribution of cars, based upon the physical capacity to produce, the allegation of unjust discrimination or undue preference has been sustained.

Petroleum.—In the case of Roxana Petroleum Company of Oklahoma v. Director General, et al., the commission has found unreasonable to the extent that it exceeds 23.5 cents per 100 pounds the rate on tank carloads of gasoline shipped from Cushing, Okla., to Little Rock, Ark. At the time shipments in question moved, a 19-cent rate was legally in effect and the commission has ordered reparation paid down to that basis.

New Complaints

Docket No. 11036—Seaboard By-products Coke Co., Seaboard, N. J., and Keanry, N. J., v. D. L. & W. Ry., et al.

Filed November 28.

Against unjust and unreasonable rates on *bituminous coal* from points on the P. & L. E., Monongahela, and B. & O. to Seaboard by reason of the absence of joint through rates.

Asks for a rate of \$2.35 and reparation.

Docket No. 11037—Seaboard By-product Coke Co., Seaboard, N. J., and Keanry, N. J., v. P. & R., et al.

Filed November 29.

Against a rate of 9 cents per 100 pounds on *coke* from complainants' plant to destinations on the P. & R. and D. L. & W. and particularly to Hellerton, Pa.

Asks for a rate of \$1.60 and reparation.

Docket No. 11045—Illinois Coal Traffic Bureau, Chicago, Ill., v. Chicago & Alton R. R. Co., et al.

Filed December 2.

Against unjustly discriminatory rates on *bituminous coal* from Illinois mines to points in Missouri, Iowa, Nebraska and Kansas.

Asks for just, reasonable and non-discriminatory rates.

Docket No. 11048—The Alabama Company, et al, Birmingham, Alabama, v. Southern Railway Company, et al.

Filed December 1.

Against unjust and unreasonable rates on *raw materials* to furnaces in the Birmingham District for use in the manufacture of pig iron. The materials are ores, coal, coke, and limestone.

Asks for reasonable rates and such other relief as the Commission may deem complainant entitled to.

Docket No. 11049—Richard Griffith, et al, as the National Coal Co., Frostburg, Md., v. Jennings Railroad.

Filed December 2.

Alleges unjust, unreasonable rates and services in connection with coal from complainants' mines, by reason of mine ratings, failure to publish tariffs and failure to make joint through rates.

Asks for cease and desist order, publication of rates and charges, rating of mines, designation of car supply and just and reasonable rates.

Docket No. 11054—Federal Oil and Supply Co. (formerly Federal Oil Co.), Des Moines, v. C. M. & St. P. Ry., et al.

Filed December 5.

Against unjust and unreasonable rates on *petroleum lubricating oil* from Salt Lake City to Cleveland, Ohio.

Asks for the application of a published rate and reparation.

Docket No. 11056—Keeler Lumber & Fuel Company, Shopiere, Wis., v. C. C. C. & St. L., Ry., et al.

Filed December 5.

Against a rate of \$2.40 per ton on egg soft coal from Nokomis, Ill., to Shopiere as unjust and unreasonable.

Asks just and reasonable rates and reparation.

Docket No. 11064—Gulf Refining Company, Pittsburgh, v. D. L. & W. R. R. Co., et al.

Filed December 11, 1919.

Against rates of 15.8 and 18 cents on *fuel oil* from Bergen Junction, N. J., to Schenectady, N. Y., in August, 1917, as unjust unreasonable and unduly discriminatory in comparison with a rate of 11.6 cents from competing points in New Jersey to the same destination.

Asks for reparation down to the subsequently established rate of 11.6 cents, amounting to \$1449, covering 55 carloads.

Docket No. 11074—Jones & Laughlin Ore Company, Interstate, Iron Co. and Leetonia Mining Company v. C. M. & St. P. Ry. Co., et al.

Filed December 9.

Against unjust and unreasonable charges in connection with shipments of *iron ore, mine equipment, timber, coal, machinery, and other commodities*, at complainants' docks and mines.

Asks for cease and desist order and reparation of \$7,739.08.

Docket No. 11075—Austin Abbott, et al, Springfield, Mo., v. Baltimore and Ohio Railroad Company, et al.

Filed December 9.

Against unjust and unreasonable rates on shipments of *coal* from mines in Illinois, due to the absence of joint through rates, and to the charging, under General Order No. 28, of the increase of such factor of such rates rather than the rates as a whole.

Asks for cease and desist order, reparation to the basis of a rate of \$2.15 of Illinois Group 2, \$2.30 from Illinois Group 2, and \$2.20 from DuQuoin pertain to June 25, 1918, and to the basis of \$2.55, \$2.70 and \$2.60 respectively, since that date. Also establishment of just and reasonable and joint through rates to be applied for the future.

Docket No. 11079—General American Oil Co., Tulsa, Oklahoma, v. Beaumont Sour Lake & Western Ry. Co., et al.

Filed December 12.

Against unjust and unreasonable rates on *kerosene* from Electra and Brownwood, Texas, to Kassel, Louisiana, for export and reparation amounting to \$4,700.

Asks for just and reasonable rates and reparation amounting to \$4,700.

Docket No. 11081 and Sub. No. 1—Round-up Coal Mining Co., Omaha, v. Big Fork & International Falls Ry. Co., et al.

Filed December 15.

It seeks the removal of unjust discrimination in rates on *coal* from Montana mines to all points in North Dakota, South Dakota and Minnesota.

Sub. No. 1, filed for the Sheridan Coal Company, makes the same complaint as to *coal* from Wyoming mines.

Docket No. 11085—Virginia Iron Coal and Coke Company, Roanoke, v. N. & W., et al.

Filed December 16.

Against unjust demurrage charges on *iron ore* shipped to the furnace at Roanoke with the ore frozen so it could not be unloaded.

Asks for reparation amounting to about \$2,800.

Docket No. 11088—Standard Oil Company (Kentucky), Louisville, v. Illinois Central, et al.

Filed December 12.

Against unjust and unreasonable rate relationship on *crude and refined petroleum* from Crichton, La. to Louisville, Ky.

Asks for just rates and reparation amounting to \$7,788.

Docket No. 11091—Central Illinois Coal Traffic Bureau v. A. T. & S. Fe. Ry. Co., et al.

Filed December 15, 1919.

Attacks as unjust and unreasonable, unjustly discriminatory and unduly preferential the rates on *coal* from mines in Illinois in

the Central Illinois or Springfield District to destinations in Illinois, Indiana, Wisconsin, Iowa, Minnesota, North Dakota and Nebraska. It is alleged that complainants are at a disadvantage in competition with other mines in Illinois and elsewhere because of the system used in making rates from various groups of mines.

Docket No. 11093—El Paso (Tex.) Chamber of Commerce v. Director General, et al.

Filed December 9.

Against a rate of 95 cents on *gasoline* from Wilson, Okla., to El Paso because in excess of a combination of 44.5 cents in effect at the time of the movement and subsequently established as the joint through rate.

Asks for reparation.

Docket No. 11099—Producers & Refiners Corporation v. Director General, et al.

Filed December 18.

Attacks as unjust, unreasonable and unduly and unjustly discriminatory rates on refined products of *petroleum*, including *gasoline*, from Blackwell, Okla., to Little Rock, Ark. The prayer asks for a rate of 23½ which is in effect from competing points via another route.

Reparation is claimed.

Docket No. 11100 and Sub. No. 1—Lukens Steel Company v. Director General, et al.

Filed December 20.

This is a petition for reparation on various carloads of *flour spar* imported from England and transhipped from Baltimore to Coatesville, Pa. It is alleged that the import rate of \$1.40 per gross ton was cancelled ers who hear the evidence in commission cases \$3.00 put into effect. Subsequently a rate of \$1.50 was made to apply and complainant seeks reparation down to that basis. Sub. No. 1 deals with similar shipments from Locust Point, Md.

Tentative Reports

(Tentative Reports are findings of Examiners who hear the evidence in commission cases and are not to be considered in any way the opinions of the commission. They are merely circulated among the interested parties as the recommendations of the Examiner. After their circulation the parties are given an opportunity to argue before the commission and to file Exceptions to the Report. The commission then takes the matter under consideration and reaches its conclusions.)

Docket No. 10710—Utilities Development Corporation, et al. v. P. C. & St. L. Ry. Co., et al.

A tentative report in this case has been proposed by Examiner Barclay, the syllabus of which is as follows:

Rate of 70 cents per net ton on run-of-mine bituminous coal, in carloads, from Bicknell, Indiana, to Edwardsport, Ind., initi-

ated by the Director General of Railroads, effective June 25, 1918, found unreasonable to the extent that it exceeds or may exceed 40 cents per net ton. Reparation awarded.

Docket No. 10633—Schram Glass Manufacturing Co. v. Director General.

A tentative report in this case has been prepared by Examiner T. M. Woodward, the syllabus of which is as follows:

Rate on coal from mines at Hillsboro, Ill., to complainant's plant found not unreasonable. Complaint dismissed.

Docket No. 10640—National Refining Company v. Director General, et al.

A tentative report in this case has been prepared by Examiner F. H. Barclay, the syllabus of which is as follows:

Rates on petroleum products, in carloads, from Coffeyville, Kan., to Healdton, Okla., found to have been and to be unreasonable.

Reasonable maximum rates on those commodities in tank cars prescribed for the future and reparation awarded.

Docket No. 10597—Calumet & Arizona Mining Company, et al v. Director General.

A tentative report in this case has been proposed by Attorney-Examiner Wilbur LaRoe, Jr., the syllabus of which is as follows:

Rates in effect since June 25, 1918, on copper ore, in carloads, from Bisbee, Ariz., to Douglas, Ariz., and on lime rock, in carloads, from Forrest, Ariz., to Douglas, found to have been and to be unreasonable. Reasonable rates for the future prescribed. Reparation awarded.

Docket No. 10825—Tennessee Copper Company v. Director General, et al.

A tentative report in this case has been proposed by Examiner C. F. Gerry, the syllabus of which is as follows:

Refusal of the defendants to accord Baltimore, Md., refining-in-transit rates for the transportation of copper bullion, carloads, from Copperhill, Tenn., to points of destination in Delaware, Pennsylvania, New York, Connecticut, and Massachusetts, found to have subjected that traffic to rates which were, from January 1, 1919, and, for the future will be unjust and unreasonable to the extent they exceed \$9.90 per net ton. Reasonable rates prescribed for the future and complainant found to have been damaged thereby.

Docket No. 10492—Phelps Dodge Corporation, et al., v. Director General, et al.

A tentative report in this case has been proposed by Examiner W. R. McFarland, the syllabus of which is as follows:

Rates on copper bullion, in carloads, from points in Arizona to New York, N. Y.,

and to Galveston, Tex., and New Orleans, La., found not to be unreasonable or otherwise unlawful. Complaint dismissed.

Docket No. 10526—Anaconda Copper Mining Company, et al., v. Director General, et al.

A tentative report in this case has been proposed by Examiner W. R. McFarland, the syllabus of which is as follows:

1. Rates on smelter products between numerous points of origin, principally in the West, and destinations chiefly in the East, found not unjust, unreasonable, unjustly discriminatory or unduly prejudicial except as stated below.

2. It is, has been since June 25, 1918, and for the future will be unjust and unreasonable to withhold at Baltimore, Md., a refining-in-transit service similar to that in effect at Perth Amboy, N. J., on shipments of smelter products moving from western points to Philadelphia, Pennsylvania territory, New York, N. Y., territory, and New England points, on the basis of the through rates plus 50 cents per ton of 2,000 pounds. Reparation awarded.

Docket No. 10700—Union Tanning Company v. Director General, et al.

A tentative report in this case has been proposed by Examiner M. A. Pattison, the syllabus of which is as follows:

Rates on bituminous coal from the Appalachia group of mines in Southwestern Virginia to Old Fort, N. C., not found unreasonable. Complaint dismissed.

Docket No. 10747—New Jersey Power & Light Company v. Director General, et al.

A tentative report in this case has been proposed by Examiner E. L. Gaddess, the syllabus of which is as follows:

Rate of \$3.20 per gross ton on barley coal, in carloads, from Scranton, Pa., to Dover, N. J., found unreasonable to the extent that it exceeded the rate of \$2.40 per gross ton subsequently established. Reparation awarded.

Railroad Administration

In November the Director of Traffic and the Director of Public Service issued instructions to various committees working throughout the country on rate changes, which instructions provided that because of the termination of federal control it was not deemed advisable to recommend for the future any rate changes except those made necessary by errors or the ordinary adjustments arising. Provision was also made that rates for new movements should be handled. Consequently there have not been any very important rate changes, and it is understood that the instructions now in effect will be continued throughout the balance of federal control.

PATENTS

CONDUCTED BY JOHN BOYLE, JR.

1,321,427.—Dudley T. Fisher, Columbus, O., assigned to Jeffrey Mfg. Co. **Coal Mining Machine** having means for forming a plurality of parallel vertical kerfs in the face of the coal, means for breaking down the coal between the kerfs, and means for gathering the coal and loading it into cars.

1,321,490.—E. J. Sweetland, Montclair, N. J., assigned to United Filters Corporation. **Fume Arrester**. Removes the collected solids from the filter bag by forcing a reverse current of gas through the walls at successive zones.

1,321,577.—Wm. F. Walda, Fort Wayne, Ind., assigned to Deister Concentrator Co. **Ore Concentrator**. Improvement in the bearing blocks for supporting the reciprocating table in proper position, and means for lubricating the bearings.

1,321,716.—J. C. & Patrick Holleran, Cokesburg, Pa. **Mine Car Check Lock** for securing miners' checks to the cars so that they cannot be removed until car is dumped.

1,321,773.—W. Ross, South Porcupine, Ont., Canada. **Grizzly**. In using grizzlies formed of horizontal bars linked together and traveling in a closed orbit, trouble is caused by fine material falling through the upper bars onto the lower bars and collecting there. This arrangement automatically increases the spacing of the bars when moving on the underside to permit escape of this material.

1,321,290.—Charles E. Davis, Chicago, Ill., assigned to Goodman Mfg. Co. **Coal Cutting Machine**.

1,321,840.—Cyrus S. Oldroyd, Cincinnati, O. **Mining and Quarrying Machine**. An undercutting machine of the rotary cutter type. Provision is made for making wall cuts horizontally at different elevations and also along upright planes.

1,321,983.—Wm. Cole, Ironwood, Mich., assigned to Cole-Goudie Shovel Co. **Pneumatic Shovel** designed especially for underground mining operations, for loading coal on mine cars. Occupies minimum amount of headroom and has small radius of rotation. Involves a pair of coaxing angularly disposed motive fluid pistons mounted on a rotary support.

1,321,985.—Thomas B. Crowe, Victor, Colo., assigned to Merritt Co., of San Francisco. **Process and Apparatus for Precipitating Materials from Solution**. Removes from the solution by vacuum the gases which interfere with the precipitating of the metal.

1,322,088 and 1,322,091.—Frank G. Breyer, Palmerton, Pa., Jas. A. Singmaster, Bronxville, N. Y., and Albert E. Hall, Palmerton, Pa., and

1,322,089 and 1,322,090.—Frank G. Breyer, Albert E. Hall and George R. Waltz, Palmerton, Pa., and

1,322,142 and 1,322,143.—Jas. A. Singmaster, New York, N. Y., Frank G. Breyer and Earl H. Bunce, Palmerton, Pa. The above enumerated six patents all assigned to New Jersey Zinc Co., cover the **Manufacture of Zinc and Lead Oxides** by the Wetherill Process and involve the step of supplying the bed fuel in the form of briquettes, together with the step of supplying in the working charge a briquetted mixture of zinkiferous and plumbiferous material and reducing agents.

1,322,113.—Robert H. Jeffrey, Columbus, O., assigned to Jeffrey Mfg. Co. **Coal Mining and Loading Machine** having cutting devices capable of forming a plurality of parallel, spaced apart, horizontal kerfs, or to be adjusted to form a series of parallel vertical kerfs, together with means to break down the coal between the kerfs and means to receive and remove the coal as it is broken down.

1,322,185.—Magnus A. Goltz, Winona, Minn. **Recovery of Thorium** from monazite sand as pyrophosphate.

1,322,223.—H. C. Bingham, London, Eng., assigned to Huntington, Heberlein & Co., Ltd. **Roasting Furnace** with superposed circular hearths and horizontally rotating rables, wherein all the hearths are arranged at an inclination opposed to that of the radial movement of the material under treatment.

1,322,487.—Lewis H. Falley, Kansas City, Mo. **Hydraulic Ore Classifier** comprising several settling compartments, one within the other, and communicating through continuous passageways extending practically throughout the course of the waterflow together with a novel arrangement of deflecting elements for modifying the action and direction of the water flow in order that the required separation may be effected.

Reissue 14,756.—Clarence M. Scott, Hou-

ston, Texas, assigned to Texas Co. **Oil Well Screen** adapted to permit fine particles of sand to pass through and out of the well without cutting the strainer, making it possible for the uncut permanent strainer to hold back the coarse particles of sand, building up a large bed of coarser sand around the outside of the strainer, thus permitting free flow of oil and materially increasing the flow of the well. The screen is composed of a mass of granular particles of carborundum or other hard substance between perforated retaining walls of metal or spaced screens.

1,322,567.—Joseph L. Hiller, Mattapoisset, Mass., assigned to Pennsylvania Crusher Co. **Coal Breaker and Cleaner.** This device involves a rotary screen drum for sizing coal and also for removing foreign matter therefrom. The coal after having once passed through the screen, is returned to the receiving end and repeatedly circulated until it has been broken to the required diameter or is discharged. The machine is adapted for treating a soft low volatile coal, where the greater part is broken to the desired size and separated out by one passage through the drum, or it can be adjusted for a harder coal, where the unbroken lumps will be circulated until reduced to the proper size.

1,322,568.—Joseph L. Hiller, Mattapoisset, Mass. **Tailings Deflector for Coal Breakers.** By adjustment of the tailings deflector, the length of treatment given to any material may be regulated. The deflector cooperates with the plow of an inclined screen drum.

1,322,816.—Clement L. Perkins, Pittsburgh, Pa., assigned to Metals Recovery Co., of N. Y. **Flotation of Minerals.** Adds toluidin to the ore pulp.

1,322,819.—Charles A. Pratt, Chicago, Ill., assigned to Goodman Mfg. Co. **Cutter Arm for Coal Mining Machines.**

1,322,900.—Edward Hart, Easton, Pa. **Process for Treating Greensand or Glauconite.**

1,322,909.—Max Kraut, Los Angeles, Cal. **Ore Separator.** A froth collecting device for flotation machines mounted upon top of a casing preferably cylindrical containing a revolvable agitating member. Reduces the floor space necessary for each machine without materially increasing the headroom. Greater efficiency claimed because no part of the separated metal will be returned to the pulp. Insures also that the direction of travel of the air bubbles will not be reversed.

1,322,912.—C. H. Lonergan, Ensley, Ala. **Miners' Check Protector** for attachment to mine cars to prevent substitution of another check.

1,322,923.—Harry J. Meisel, Butte, Mont. **Automatic Safety Door for Mines** closing upon the breaking of an electric current.

1,323,124.—Russell Thayer, Philadelphia, Pa. **Method of Recovering Gold** from colloidal gold bearing sand which consists in mixing the sand with an alkali and roasting the mixture. The ores treated are the great bodies of glacial moraine sands found in New York State.

1,323,157.—George T. Cooley, Joplin, Mo. **Ore Concentrator** having a combination of three motions: a jig motion, a table motion, and a pan motion, and especially constructed riffles, the ore working down the inclined sides of and lodging in the bottom of the riffles.

1,323,174.—John M. Draper, Bridgend, England. **Hydraulic Classifier** for fine coal and ores.

1,323,293.—R. W. Lesley, Haverford, Pa. **Apparatus for the Manufacture of Portland Cement;** and

1,323,294.—R. W. Lesley, Haverford, Pa. **Utilization of Low Grade Carboniferous Material.** Oil shale is subjected to distillation preferably by the utilization of the waste heat from a kiln, the permanent gas thus produced is returned to a kiln for use as fuel, the other products of distillation being recovered as may be desired, and the residuum or spent shale, being argillaceous, is mixed with calcareous material and calcined to form cement clinker.

1,323,373.—John F. Myers, Canyon City, Colo., assigned to New Jersey Zinc Co. **Flotation Apparatus** made up of a plurality of compartments or cells of annular or other contour surrounding each other and so arranged with respect to each other that the froth from one cell is fed to the next, and the tailings are fed from one cell to another in counter current to the flow of the froth.

1,323,379.—Clark F. Rigby, Butler, Pa. **Oil Well Valve.** Gas frequently collects in the space between the well bore and the casing extension acquiring pressure which, unless relieved, forces gas into the pump at the well bottom with the oil and water and seriously interferes with the pump's operation. In this device the pressure of the collecting gas, when sufficiently great, lifts the valve from its seat, which permits the gas to escape through port holes into the oil and water at a point far above the pump and where it flows with the liquid to the well discharge.

1,323,421.—Ernest J. Sweetland, Montclair, N. J., assigned to United Filters Corporation. **Filter Leaf Construction.**

1,323,464.—Walter Glaser, Brooklyn, N. Y., assigned to Potash Extraction Corporation of N. Y. **Treating Potassium Silicates.** A process which consists in heating the silicate at a low red heat, suddenly cooling the same, intimately mixing the same with pyrites and calcium sulfate, briquetting the mixture, and exposing the same to air and moisture until the pyrites is oxidized to ferric sulfate, and then burning the same at about 900 degrees C. in the presence of air and steam.

1,323,470.—Charles C. Hebbard, Joplin, Mo. **Ore Concentrator.**

1,323,575.—Henry W. Brahe, Port Pirie, South Australia, assigned to Broken Hill Associated Smelters Proprietary Ltd. **Handling of Retorts Used in the Production of Spelter.** An apparatus for removing the hot freshly burned retort from the kiln to the distillation furnace.

1,323,588.—Arthur Gordon, Johannesburg, Transvaal, South Africa. **Precipitation of Metals from Solutions.** Precipitates gold and silver from cyanide solutions by bringing the solution in contact with amalgated aluminum plates in the presence of lime.

1,323,618.—Thomas M. Chance, Philadelphia, Pa. **Flame Safety and Open Lamp.** An acetylene lamp for a reigniting burner and a reflecting shield for the insulating of the reigniting element.

1,323,660.—Homer C. Thrift, Houston, Texas. **Well Capping Device.**

1,323,681.—David E. Day, Washington, D. C. **Treatment of Shales and Coals.** The invention provides for the generation of gases of combustion, substantially devoid of oxygen, and the treatment of the oil bearing material with the hot gases to effect the distillation of the oil. The process involves the agitation of the shale during the heat treatment in a particular type of retort or still and includes also the treatment of the material in the presence of steam. High temperatures may be used and coking is avoided.

1,323,735.—Otto N. Berndt, Chicago, Ill., assigned to Lindsay Light Co. **Art of Recovering Thorium** from monozite sands.

1,323,764.—Mathias Hauberge, West Haverstraw, N. Y. **Recovery of Potassium and Aluminum Compounds** from Greensand by heating the ferrous sulphate and leaching.

NOTED SWEDISH ENGINEER JOINS MINING CONGRESS

One of the newest members of the American Mining Congress family is Nils V. Hansell, formerly noted as a mining engineer in the iron district of Sweden and operating out of Stockholm, where for so many years he was located. Mr. Hansell was sent by the Swedish Government as an official delegate representing that country to attend the 22d Annual Convention in St. Louis, and became deeply interested in the work of the organization. Previous to the war Mr. Hansell was for several years located in this country and after investigating the possibilities of the development of low grade iron ores in the Eastern States, he spent considerable time in field work in his own behalf. At the close of the war he returned to this country, establishing an office in New York and has since been devoting his time to various problems particularly in connection with the use of electric furnaces for the reducing and refining of iron and other metals.

To Continue Mineral Bulletins

Replies received by Director Manning of the Bureau of Mines indicate a general desire that the issuing of Monthly Reports of Minerals Investigations be continued. "It is necessary," he points out, "to modify the character of the material issued in this form, since funds are no longer available to permit specialists to be detailed to collect current information regarding the economic situation of the principal mineral commodities. So far as is practicable this service will be continued by the bureau staff, and, in addition, brief reports of investigations in mining, metallurgy, fuel engineering and mechanical engineering as applied to mining will be issued in this form, so that they may be made available more promptly than is possible through printed reports.

Gasoline Production

The domestic production of gasoline, for the first nine months in 1919 increased approximately 10 per cent over that for the same period in 1918; the foreign demand decreased 36 per cent and the domestic consumption increased 8 per cent; but the stocks on hand at the refineries, September 30, 1919, were 38 per cent larger than the amount on hand September 30, 1918.—Bureau of Mines.

India Taking Less Silver

The Indian demand for silver has diminished, and India has instead resorted to importations of gold to strengthen its currency reserve.—Bureau of Mines.

INDUSTRIAL NOTES

The Barrett Company, well-known producers of Flotation reagents, have announced the establishment of a Flotation Oil Department. The increased use of Coal Tar products in this important branch of metallurgy has necessitated this step on the part of this progressive Company. It is understood that the function of this new department will be to carry on a conservative advertising campaign in favor of a more general use of Coal Tar products in flotation and to bring to the assistance of the mining companies their knowledge of Coal Tar technique with the idea of assisting them to choose their Flotation reagents more intelligently.

This new branch has been put in charge of Mr. F. G. Moses, a Flotation Engineer of broad experience and acquaintance with Flotation in its various phases. Mr. Moses recently severed his connection with the Salt Lake City Station of the United States Bureau of Mines to take up this work for The Barrett Company. Before entering the employment of the Government, he was employed as a Flotation Engineer on the staff of J. M. Callow, inventor of Pneumatic Flotation. While employed with Mr. Callow, Mr. Moses investigated ores and operated Flotation plants in various sections of the country. Due to this experience, he has a very wide understanding of the problems encountered by the Flotation operators. Mr. Moses is also known as the author of several timely articles on Flotation which have appeared in the technical press.

Jacobson & Schraeder, Inc., Engineers and Constructors, Chicago, announce the removal of their general offices and engineering department.

The volume of business in Tipple Construction and increased facility for service to their clients is cause for the engagement of the entire top floor of the Majestic building, Chicago, and a branch office in the Oliver building, Pittsburgh, Pa.

Messrs. Chas. Butters & Co., Ltd., beg to announce that they have recently opened offices in the United States at the above address, where a general business in metallurgical engineering will be conducted under the direction of Mr. F. L. Bosqui.

The company further announces that they are now operating at Salt Lake City a complete Engineering and Ore-Testing Laboratory under the supervision of Mr. A. H. Jones, the inventor of the Jones-Belmont Flotation Machine. A complete equipment has been provided for testing ores in accordance with the most modern and practical methods in Ore-Dressing,

Crushing, Filtration, Cyanidation, Table and Flotation Concentration as applied to gold, silver, copper and lead-zinc ores. In addition to the elaboration and selection of suitable processes, the designing of mills and the supervision of mill-construction are also undertaken.

COAL OUTPUT IN 1919 LOWEST SINCE 1915, RETURNS SHOW

An output of 8,621,000 tons of soft coal during Christmas week brought the total production from the beginning of the year to December 27, up to the figure of 451,618,000 tons, says the Geological Survey in its report of January 3. With three working days remaining this suggests a total bituminous output for the year 1919 of 458,000,000 tons. This is the smallest in any year since 1915. Compared with the 579,386,000 tons of the record year, 1918, it is a decrease of more than 121,000,000 tons.

While the Christmas holiday caused a drop in total production, the rate per working day during the week ended December 27 was practically the same as that of the week before. The average for the five working days was 1,724,000 tons. This was 85.5 per cent of the daily rate for the four weeks ended October 25, which may be regarded as normal.

The average for the week—85.5 per cent of normal—is not, however, a true measure of the extent to which operations have been resumed in the union districts, for neither the day before Christmas nor the day after, count as full working days. A better measure is found in the fact that on Monday, December 22, the output was 103 per cent of normal, or in the fact that compared with production at Christmas time of last year, the week shows an increase of over 2,000,000 tons.

The output of anthracite during Christmas week fell to 1,331,000 net tons, a decrease of 396,000 tons, or 23 per cent, when compared with the preceding week. The holiday slump was not as marked as last year, when the output of Christmas week was only 1,289,000 tons.

The total production from January 1, 1919, to December 27 amounted to 85,400,000 net tons. The three working days remaining may raise this figure to 86,225,000 tons for the year 1919.

China Buying Silver Heavily

The explanation of the recent rise in the price of silver is to be found in the demand from China. This country is on a silver standard and tremendous favorable balance of trade and depleted stocks of silver have created a demand for silver shipments from the United States.—Bureau of Mines.

Metal Mining in New Mexico

The output of the mines of New Mexico for eleven months of 1919 and the estimated output for December, as reported by Charles W. Henderson, of the United States Geological Survey, Department of the Interior, amounted to \$568,000 in gold, 709,000 ounces of silver, 2,800,000 pounds of lead, 52,200,000 pounds of copper, and 8,000,000 pounds of zinc, as compared with \$682,791 in gold, 782,421 ounces of silver, 8,398,239 pounds of lead, 98,264,563 pounds of copper, and 24,050,324 pounds of zinc in 1918. These preliminary figures show decreases of \$115,000 in gold, 73,000 ounces of silver, 5,600,000 pounds of lead, 46,000,000 pounds of copper, and 16,000,000 pounds of zinc. All the mines except silver mines suffered from low prices of metal and increased prices of labor and materials.

Iron Age Says

Iron trade is face to face with a much more serious shortage than that which has been a matter of concern for weeks. Even though work be resumed promptly at bituminous coal mines as a result of the Indianapolis conference, restrictions on distribution and use of such fuel are likely to continue for weeks and their removal will be only by degrees.

Under latest restrictive order of the Fuel Administration, effective Wednesday, Dec. 10, beehive coke ovens are limited to 50 per cent of coal charged into them in November and by-products ovens are put on 30-hour coking time, practically cutting their output by 50 per cent. Ten days' enforcement of this order would cause nearly half the blast furnaces of the country to bank or blow out.

With added possibility of snow blockades, outlook for iron and steel production in the next two months is thus more serious than at any time, not excepting shut down period covered by Garfield order of Jan. 17, 1918. Pig iron output is now at rate of about 84,000 tons a day but is likely soon to fall much below average of 78,000 tons a day made in heatless January, 1918.

Explosives Plant Sold

The Director of Sales announces that the War Department has consummated the sale of the Explosives Plant at Nitro, W. Va., to the Charleston Industrial Corporation, the headquarters of which are at Charleston, W. Va. The Explosives Plant and other facilities owned by the War Department at Nitro, W. Va., were recently offered for sale under informal bids and the property was awarded to the Charleston Industrial Corporation on its bid of \$8,551,000.

Output of Metals in Washington

The value of the gold, silver, copper, and lead mined in Washington in 1919, according to the estimate of C. N. Gerry, of the United States Geological Survey, Department of the Interior, was about \$959,000, a decrease of \$518,000 from that of 1918. No zinc ore was marketed. There were marked decreases in copper and lead, and slight decreases in gold and silver. The copper output in the Chewelah district, Stevens County, was somewhat less, and there was a marked decrease in the shipments of siliceous ore from the Republic district, in Ferry County. Most of the ore and concentrate from the mines of Washington was smelted at Tacoma, Wash.; Trail, British Columbia; Midvale, Utah; and Northport, Wash. The plant at Grand Forks, British Columbia, was closed in June, and the smelter at Greenwood, British Columbia, was idle throughout the year. The lead plant at Northport, Wash., was idle several months on account of the activity of the Hercules mine in Idaho during most of the year. The price of silver increased to about \$1.12 an ounce, but the average prices of copper, lead, and zinc were even less than those of 1918.

PERSONALS

John C. Howard, a director of the American Mining Congress, spent several days in Washington during December, and it is expected that he will return to the East early in January in the interest of the Oil Leasing measure, which is now before the conference committee.

T. L. Lewis, Secretary of the Splint & Gas Coal Association of West Virginia, was a caller at the offices of the American Mining Congress recently when in Washington.

G. H. Caperton, of West Virginia, was in Washington several days during the month.

A. B. Conklin is again in Washington in the interest of the graphite producers.

Bulkeley Wells, President of the American Mining Congress, is in New York for several weeks.

General John T. Barnett, of Denver, Colo., is at the New Willard, and will be in Washington indefinitely in the interest of oil producers.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

A PRELIMINARY REMEDY FOR H. C. L.

Outside the question now involved in the Cummins-Esch Bill and a part of the propaganda which is now being extensively carried on is the question of a further increase in basic freight rates.

It was shown in the January number of the MINING CONGRESS JOURNAL that the rate now prevailing is 51 per cent higher than the rate which prevailed in 1913. It is now being urged that the railroads should be permitted to make an advance upon the present rate of 25 per cent which will mean approximately 88 per cent increase over the rates of 1913.

MINING CONGRESS JOURNAL does not believe that this rate should be established until every other recourse has failed through which the railroads shall be in position to render efficient service to the business of the country and to make such profits as will attract the new capital required for extensions and betterments of railroad facilities which will permit the satisfactory handling of the transportation business of the country.

MINING CONGRESS JOURNAL believes that the standard return should be guaranteed by the Government to the railroads for such length of time as will permit them to fully answer the question as to whether the present rates are sufficient or whether additional rates will be required to meet the country's transportation requirements.

A freight rate once established is most likely to become a permanent rate with only such changes as are required to meet local conditions. The freight earn-

ings of the railroads of the country in the year 1918 amounted to \$1,434,723,-161. During that year, the tonnage furnished directly to the railroads by the mining industry of the United States, amounted to 57.5 per cent of the total. This does not mean that 57 per cent of the earnings of the railroads were paid directly by the mining industry because for obvious reasons mining products are carried at a cheaper rate per ton than most other commodities. However, it is true that indirectly the mining industry pays a very large amount of the freight on commodities carrying higher rates.

A 25 per cent increase in freight rates is now being proposed and actively urged by the railroads, which means an increase of more than \$150,000,000 annually to be paid by the mining industry. If this increase is necessary in order to permit the railroads to operate efficiently and satisfactorily, then it is up to the mining industry to buck up to the line and pay the additional rate, but if it is at all possible for the railroads to be tided over this present emergency without the increased rate, it is altogether for the interest of the country at large that this shall be done.

It is universally considered that there must be a point beyond which high prices cannot go and that sooner or later the trend of prices must be downward. Unless prices in foreign countries increase as rapidly as do our own, there must be a return to lower levels, else this country's products will be barred entirely from foreign markets. It is safe to assume that European countries, in order to meet their war obligations, will be required to economize and to produce as

cheaply and efficiently as possible. A trend toward lower prices would be a great boon to the country whenever it can be initiated without too great disturbance to our financial system.

What better point can be found in which to initiate a downward trend of prices than in some great enterprise in which the Government can guarantee losses, spreading these out over the people in the form of taxation.

MINING CONGRESS JOURNAL believes that the place to begin is with the railroads; that this burden can be assumed by the people as a whole better than by any independent industry. The public has already assumed a deficiency created by railroad operation. It can go a little farther if necessary.

MINING CONGRESS JOURNAL submits that there is no place where a halt can better be called to the present dangerously increasing trend of prices than with the railroads. No other industry could possibly receive government aid. No agency so quickly adds its expense to every dinner pail and every breakfast table. Let us cease joking about the high cost of living. Let us start at the only feasible place where, as a nation, we may begin a movement toward normal prices, toward a condition which must be brought about by intelligent foresight or by the cruel logic of an industrial panic.

Let the leading industry of the country, with the government at its back, lead the way to normal conditions.

WILL AMERICANISM WIN?

Henry J. Allen, Governor of Kansas, in a message to the legislature of his state, in an extraordinary session on January 5, called attention to the heartlessness and callous indifference of the striking coal miners who, under the leadership of President Howat, of the Kansas Federation, tied up the mines of that state simultaneously with the tying up of all other bituminous fields in the central region. The Governor, like most westerners, is a "direct actionist." He

saved the state from the coal famine through the voluntary services of inexperienced, untrained, but loyal citizens. He forced a receivership and took charge of all of the mines in his state, and in his address to the legislature he recited the cold hard facts in the history of the contest. He appealed to the legislature to consider a law by which the ordinary methods of dealing with the labor situation might be superseded by a "Court of Industrial Relations." He outlined a strong dignified tribunal invested with the power, authority, and jurisdiction to hear and determine all controversies which might threaten, injure, delay or suspend the operation of the state's industries; and declared it to be the duty of all persons engaged in such industries, whether as employers or workers, to see that the state shall be supplied at all times with the necessities of life. He proposed that the Industrial Tribunal should, on its own initiative or upon complaint registered by citizens, investigate and determine the merits of any controversy with power to prescribe rules and regulations, hours of labor, working conditions, and minimum wage. The bill proposed by the Governor provided for the incorporation of unions or associations or workers, recognizing to the full the right of collective bargaining but establishing these rights under contractual responsibility. He proposed a law that would make it unlawful for employers to delay or suspend production or transportation, or to discriminate or discharge any employe because of any participation by that employe in proceedings before the Court. The Governor called the legislature's attention to the fact that such a law and court would prevent strikes and lockouts and boycotts, and insure the people at all times an adequate and stable supply of the necessities of life. In short, Governor Allen proposed that Kansas should be run along purely American lines.

The Governor's proposal became a law. At first the plan met with active opposition, but this quickly changed to support on the part of a large number of laboring men and leaders, and Governor Allen

firmly believed that he had succeeded in establishing the principles of right and justice in his state.

But Mr. Howat, so-called labor leader and recognized radical, and president of the District Branch of the U. M. W. of A., planned differently, and when the bill became a law, even before there was an opportunity to appoint a court and set the machinery in operation, some of the bituminous miners of Kansas left the mines and an effort was made to declare a general strike. The strike, as a strike, lasted just one day, but the spirit of contempt of law remains in the minds of Kansas radicals. Labor, generally, quickly saw the justice of the new law.

The Governor of Kansas, backed by a legislature which had the backbone to pass a reasonable and just measure for the protection of worker, employer and public, does not intend to allow Kansas to be imposed upon further, and in declaring his line of action Governor Allen in simple, direct and positive phraseology sounded a warning that while an individual had a perfect right to strike as a protest against the passage of the law, he would thwart any conspiracy exercising the sovereign power of Kansas. Had the coal strike continued Governor Allen was ready to teach Mr. Howat and his followers a much-needed lesson.

The principle involved is similar to the issue in Colorado, where compulsory arbitration has long been established under statute. The American Federation of Labor has long held up to the public the nightmare of the injustice being practiced under the Colorado law, but since compulsory arbitration was introduced it is a notable fact that there are fewer labor disputes in Colorado.

THE GOLD QUESTION

For more than two years the MINING CONGRESS JOURNAL has been calling attention to the serious danger which threatens this country on account of the decreasing output of gold, caused by the ever increasing costs of production.

A very careful analysis made early in the year 1918 showed the increased cost

of gold production at that time reached 57 per cent above the cost in pre-war times. The result of this economic pressure has been, as we then predicted, to force the closing down of a very large number of gold mines and to put an almost unbearable burden upon those mines in which the grade of ore was high enough to permit operation. We then predicted that the gold output for the year 1918 would fall below 75 millions of dollars and that it was safe to assume that the production of 1919 could not possibly be in excess of 65 millions of dollars. These estimates were entirely too conservative in that the production of gold in the United States was but 68 millions of dollars in 1918, and but 58 million dollars in 1919.

In the meantime, the use of gold for industrial purposes has largely increased. We are still facing the same condition—a still further decrease in gold production and a still larger increase in the use of gold for industrial purposes. The amount of credit money, based upon our gold reserve, has so increased as to have almost reached the legal limit, the balances are increasingly against us in our trade with the Far East, and there seems little prospect that any considerable amount of gold will flow into this country from Europe.

So many gold mines have already closed down that it will take several years, even with the stimulus of a satisfactory premium, before their outputs can be made available on the former peace-time basis. Practical mining men understand the reason. A mine, once abandoned, deteriorates so rapidly that it requires years to put it back again in workable condition. Many mines fill with water, timbers rot and workings cave, making them entirely unreclaimable.

To develop a new mine requires years of patient operation, even though the location and extent of the ore bodies are well defined. In most instances, undeveloped ore bodies are unknown ore bodies, and it is only after a large amount of development work, most of which has been done in barren ground, that a mine is put in position to produce regularly.

It will take years to put the gold in-

dustry in the condition that it was in in 1915. The quicker this process is begun, the better for the country. The longer it is delayed, the greater the danger to the country, the longer the time required for recovery, and the more bitter the lesson.

THE STEEL STRIKE IN COLORADO

One of the most interesting chapters in strike history as tending to show the persistency with which organized labor attempts to force the adoption of its edicts is found in the recently published report of President J. F. Welborn, of the Colorado Fuel & Iron Company. In this report Mr. Welborn describes to the stockholders and employes of his company, the experiences of the company during the steel and coal strikes. The steel strike was called without warning at a time when the best of feeling existed between the Colorado Fuel & Iron Company and the majority of its workers. The Industrial Relations Plan (the Rockefeller Plan) then in operation at the plant of the C. F. & I., provided for the right of collective bargaining through unions of employes, but not through such unions as divisions of national organizations. The company had very carefully refrained from either discriminating against, or discharging employes because of membership in unions, no questions being asked so far as the company was concerned. The eight-hour day and the six-day week had been in effect since November, 1918. There was no 24-hour shift; wages paid were as high as those paid in similar operations elsewhere, and advances had aggregated 131 per cent since 1916. Other qualifications being equal, the rule of seniority applied in maintaining, increasing and reducing the working force. When the strike committee, on September 18, presented the strike demand ordered by William Z. Foster, national secretary, based on twelve points, the only actual questions not already covered by existing conditions were technically: "Double pay for over-

time, Sundays, and holidays; the check-off system of collecting union dues, and the abolition of company unions;" which, when boiled down to one point, meant the closed shop and the union system.

The day previous to the presentation of the strike order, September 17, forty-two employes of the company had met together in the usual manner and discussed in a friendly way the business of the company. There was no suggestion of impending trouble. Twenty-four hours later those employes were called together and the injustice of the demands discussed. At the end of a four-hour conference it developed that the long and technical verbiage surrounding the supposed twelve points to be discussed amounted to nothing more or less than camouflage to cover the demand of the Steel Workers' National Organization for the adoption once more by the C. F. & I. Company of the old form of union domination or closed shop. There was no fault to be found with the treatment of the men, with the living or working conditions, and hours or the wages. It was just a question of union or nothing. The result the public well knows. The Colorado Fuel & Iron plants were closed down along with other steel plants.

Mr. Welborn's report of the coal strike shows a most interesting result of the Rockefeller Plan of Industrial Relations. When the strike was called on November 1, the company immediately asked for mass meetings of the miners at the various camps under control of the company. The wives of the miners attended and were given opportunity to vote separately on the proposition as to whether they did or did not favor the strike of the men. The vote of the women was unanimously in opposition to the strike at every camp. The men were given opportunity to cast secret ballot for or against the strike. Except for two camps there was an overwhelming majority against the strike, but the issue was forced and the United Mine Workers had given out the word that "if the Rockefeller interests do not come through it will be a warm time through 1919 and into 1920" and "we will not give up until

the Colorado Fuel & Iron Company gives us a closed shop."

Fearing violence, and at the request of hundreds of their own miners, the company asked the Governor of Colorado for state troops, and as soon as these troops were placed in advantageous points for protective purposes the majority of the miners returned to their work at the mines. The company refused to re-employ twenty radical miners who were known to have threatened violence to the men who returned to work. Because of this the Colorado miners were again called out on strike November 21, the public being informed that the company had refused to re-employ several hundred of its workmen. The thirty-day notice of a strike required by the Colorado State law called the Court into action, and the issue was investigated by the State Industrial Commission. It was admitted at the investigation that the strike was called without a vote of the workmen or action of the executive board.

The outcome of the situation in the C. F. & I. Co.'s plants seems to be the strengthening of the Industrial Plan as a means of industrial peace.

REASONS FOR SOCIAL UNREST

Whiting Williams, Director of Personnel of the Hydraulic Pressed Steel Company, of Ohio, has just returned to his desk after having spent months as a floating laborer in various steel mills, coal mines, and metal mines. He classifies the principal thoughts in the minds of the worker as "the preeminent importance of holding a job; the danger of being forced into joblessness; and a deep seated antipathy to continually being held in ignorance of the business end of his employer's establishment as to the plans, purposes, and ideals of his employer.

"These three basic thoughts," says Mr. Williams, "create a good soil for the arguments continually injected into his mind by agitators and radicals. The worker is continually told that his employer knows and cares nothing about him; that the profits of the business

which he is helping to maintain are enormous and that there is nothing in common between the worker and the employer except the pay check which ultimately passes between the two. The lack of interest on the part of the employer results in a lack of interest on the part of the employee, and it becomes, so far as the work is concerned, merely a matter of getting as much of the profits as possible for him to secure either by arbitration, force, or otherwise."

The most costly result of this growing misunderstanding is, according to Mr. Williams, a spirit of inefficiency which is a direct result of the belief in the worker's mind that his employer cares nothing for him; therefore he should not give any particular thought either to efficiency in service or in quality or quantity of production. Mr. Williams fraternized freely with all classes of labor, became one of the men and learned much of interest to every employer. "The longer I worked in the mills, the less I did," said Mr. Williams, "because of the underground instructions and taps on the shoulder with such behests as 'lots of time,' 'take it easy,' 'don't kill yourself,' etc."

The history of this investigation by a man whose life is devoted to a study of the reasons for social unrest will be read with a great deal of interest by employers, who may find considerable food for thought and material for study in their present day plans for the reconstruction of their producing organizations.

TRADE RELATIONS WITH RUSSIA

Mr. Martens, who styles himself as Ambassador of the Russian Soviet Government boastfully stated to a Congressional investigating committee a few days ago that the Soviet Government was no longer endeavoring to proselyte in other parts of the world, nor was it tending to create soviet sentiment among other nations. He made significantly, but characteristically boastful, statements; one, that the Soviets were now so strong that they did not need to consider

other peoples, but 'were strong enough to fight the world; the other, that the Soviet Government had in its treasury nearly a half billion of dollars in gold which it wished to spend in commercial transactions with other nations upon a proper basis.

About the time of Mr. Martens' public boasts of Soviet strength, a secret conference, said to have been composed of forty-five leading manufacturers, importers and exporters of the United States, was called in the city of Washington for the purpose of organizing an American movement to bring pressure to bear on the Government to force the issuance of trade licenses between American manufacturers, importers, and exporters and Soviet Russia. The American Commercial Association to Promote Trade with Russia was launched, but not all of the business men present agreed with the organization and many of them did not ally themselves in membership. The *New York Times*, in a fearless and well-worked-out statement of its investigations, brings out the fact that Dudley Field Malone, counsel for Lenin's representative during the senatorial investigation, was present at this private conference, and that the friends of the Soviet movement endeavored to show that the re-establishment of commercial relations would not be a recognition of the Soviet Government, but would in fact be with the justly famed Cooperative Societies of non-Soviet Russia. The enthusiasts back of the movement pointed out that Germany is now dealing with Russia on a large scale; that there is a vast accumulation of hides and leather in Russia, enough, if imported into the United States, to reduce the price of shoes by 50 per cent; that there is a large supply of platinum and other minerals already mined, ready for shipment; that from the Ukraine it is possible to get vast supplies of flax, grain, and food products. The meeting had been sponsored by the head of a corporation which already has a huge order for printing presses and which it is now unable to ship to Russia. Those who joined the movement, while admitting that their ac-

tivity was based upon the expected profits from the trade, talked most enthusiastically of "American interests" which they seemed to fear would not be properly safe-guarded unless trade with Soviet Russia is quickly established. The camouflaged discussion as to dealing exclusively with the Cooperative Societies was not unanimous, and there were a number present who insisted that this Government immediately reopen commercial relations direct with the Soviet Government, which sentiment was, no doubt, not unpleasing to the attorney of "Ambassador Martens." Mr. E. E. Pratt, former chief of the Bureau of Foreign and Domestic Commerce, now an active business man in New York City, withdrew from the conference after calling the attention of the gentlemen present to the danger of political significance being given to such a movement at a time when sentiment favorable to the Soviet movement is rampant in the United States. The *New York Times* in the following editorial brings out some very interesting points which should be considered not only by the State Department but by the exporters themselves before any final decision is made on the question involved:

All the pro-Bolshevist forces here will be sympathetic with their demand; and while there is no reason to doubt their assurance that they have no concern whatever in the form of the Russian Government, the fact remains that here is business interest thrown into the scales for the benefit of those who want peace with Lenine.

These exporters expect the Soviet Government to deposit large quantities of cash in American banks to pay for the goods ordered. Doubtless payment will be in gold, of which Mr. Martens says his principals have nearly half a billion dollars. Most of that belonged to the old Russian Government, and recognition, explicit or tacit, of Lenine, would imply recognition of his right to the money. But a good part of it is the Rumanian gold reserve which was deposited in Russia when the Germans approached Bucharest. If American exporters shipped goods to Russia and took their pay in gold, only to find the Rumanian Government beginning proceedings in our courts for the return of that gold to its owners, the transaction might not be wholly profitable. American courts have never taken a favorable view of the theory that theft

creates title, and theft is Lenine's only title to the Rumanian gold.)

The greatest point for the consideration of the American people is whether or not this nation can afford to deal with a renegade government, the history of which is built upon murder, rapine, and theft, and whether it would not be better Americanism for the exporters and importers of this country to confine themselves to the legitimate fields which can so easily and honorably be developed among the Allied nations, and neutrals, and our Spanish-speaking sister nations to the south.

And as if to force the issue to a conclusion the Soviet "government" now announces that the "Cooperatives" are under Lenine domination and that no dealings will be allowed with Russia unless a general armistice is ordered. Thus, Rumania's stolen treasure may fail to reach our shores.

NOT A BOGIE MAN

Glenn Plumb is not a bogie man. He is an alert, far-sighted misguided enthusiast who has already convinced union labor and some unorganized workers that he has a real idea. Of course Mr. Plumb miscalculated when it was attempted to cram the Plumb plan and the threatened general strike on the railroads down the throat of Congress on the same day. It is not in accord with the custom of the Congress of the United States to allow any group of men to dominate the activities of that august body. When Acting President Jewel, of the Railroad Brotherhoods, openly threatened that unless the entire revolutionary program of the Brotherhoods, including the Plumb Plan or some other form of nationalization, was put through by Congress, the railroads would "be tied up so tight that they would not run again," he made the mistake of miscalculating the temper of the American people; and as a result of the blunder the Plumb Plan has been resting peacefully in the committee pigeon hole, while public sentiment has been quietly but,

firmly developing against any form of nationalization of industry.

Mr. Plumb, however, like Banquo's ghost, will not down, and he recently started a campaign again backed by union labor and a few radical thinkers outside the realm, looking to the final "Plumbing" of all industries in the United States.

Organized labor has never for one moment fooled the public. The radicals in the ranks of labor intend to nationalize every industry in the United States if it can be done. It is a fight to a finish between what is now an unorganized majority and an organized minority, but the MINING CONGRESS JOURNAL believes that the unorganized majority will awaken to the fact that it must become an organized majority.

Mr. Plumb is not a bogie man, neither is he merely a scarecrow set up by his group to agitate the American people, and if the industrial leaders of the United States do not seriously consider the industrial situation and act intelligently, Mr. Plumb and his plan will occupy a very important place in the American eye within the next few years.

THE COWS SHOULD BE CONSULTED

A dangerous fallacy which affects many half baked statesmen is that which leads to the conclusion that every industry which serves a public purpose should in case of mismanagement be declared a public utility and brought under government regulation.

The latest manifestation of this imbecility was shown in a message to the New York State legislature by the Governor of that state. This message accompanies two reports upon the milk situation in that state, one by an unofficial commission appointed by the Governor and headed by ex-Governor Martin H. Glynn and the other by a voluntary higher-price milk commission of the City of New York. Referring to these reports, Governor Smith says, "Both of these reports speak of the necessity on the part of the state of declaring the production, dis-

tribution and price of milk to be a public utility, subject to state control.

"It is the unanimous opinion of all those who have made any study of the subject that the solution lies in state regulation, to the end that an adequate supply be always available at a price within the reach of all.

"I urge your honorable bodies to read these reports, having in mind that relief can only come by legislative action, and I strongly urge you to consider favorably legislation to carry these recommendations into effect."

This is not a recommendation of the non-partisan league in North Dakota nor the syndicalists, nor the Bolsheviks. It is from the Governor of the greatest state in the Union, and yet the State of New York still survives and there are still a few people who question the beneficent effects of an overruling Providence.

"WHAT DO YOU MEAN, RELIEF?"

The truth of the statement that language is a method of concealing thought was never better exemplified than in the War Minerals Relief situation as it has been shown to exist in the hearings before the Committee on Mines and Mining.

The intent of Congress in the passage of this legislation originally has repeatedly been made clear, but the verbiage by which that intent was expressed has been so construed that the intent has been impossible of execution.

Mandatory legislation is so much more difficult of execution than prohibitory that undue obstacles should not be put in its way. It is a well-established principle of law that relief legislation should be liberally interpreted. There is but little doubt that any relief bill ever passed could have been technically construed to a point where not one cent of the fund appropriated could have been made available.

That is certainly the case with the present law. But with the report of the Secretary of the Interior to Congress, dated December 1, showing thirty claims on which partial awards have been made

and four hundred and forty-two claims disallowed, out of a total of 1,203 filed, there is something wrong somewhere that should be made right. The Commission has emphatically maintained that it is not at fault in its rulings and procedure. The Commission has not had the hardihood to criticize the decisions of the Attorney General. There is only one other remaining factor in this problem which can be wrong, that is, the individual claimant. It must be the claimants who are at fault, but the Commission has done its best to correct this fault by eliminating 442 of them.

"IN GOOD FAITH"

The Government two years ago, was directing broadsides of appeal to its citizens in the mining business, by full page advertisements, begging them to produce war minerals. Wherever it could locate an individual miner who had such a deposit or who had become known to an authorized Bureau of the Government, he was specifically picked off by some individual in the bureau. Thus the campaign for the production of war minerals was pushed forward, by both broadsides of attack and individual sharpshooters.

Congress, a year ago, passed a law to reimburse the losses of those who were the victims of this attack. This law has now been construed so that only those who were picked off by the sharpshooters are to be taken care of. But the victims of the broadside are just as badly hurt as the victims of the sharpshooters.

Right here this vital truth should be pointed out. The liability of the Government did not arise primarily from the method of its solicitation for production, but it arose from its failure to sustain the markets for these minerals at prices and over a period for which the producers were assured it would be sustained.

Out of this failure arises the liability of the Government. And it is for this failure to carry out its part of the contract that the Government should now pay its citizens who have been the victims of its bad faith.

MONTANA AWAKENING.

Montana, always believed to be a state of hidden treasure, is awakening to her opportunity. A recent editorial in the *Helena Record*, in a most interesting manner discusses the rejuvenation of the state's mining industry and the indications of an enlarged development by the reopening and recapitalization of many of the older and abandoned properties. Montana has vast supplies of silver, zinc and lead, and the returning demand for these metals furnishes incentive which has resulted in local capitalists again entering into the mining industry.

 THANK YOU, SECRETARY WILSON!

The decision of Secretary Wilson that the Communist Party of America, which was largely represented among the three thousand radicals under detention at Ellis Island and elsewhere, is a Revolutionary Party directly contrary to the principles of the Constitution of the United States, was one of the most important and far-reaching decisions ever given by that official. No matter what else may or may not have been done by the Department of Labor, Secretary Wilson, by his fearless, and we believe, righteous, decision in this case has considerably increased the respect in which he is held by employers of labor in America.

Naturally the Communists do not desire deportation. They are in the amusing situation of objecting to their adopted land and objecting to leaving it. They do not like the principles of the United States Government, but they do not seem to relish the idea of placing themselves under control of Russia's dime novel government.

Congratulations, Secretary Wilson, and here's hoping that "short shift" will be given to the pleasant little party now assembled on Ellis Island awaiting a deep sea journey.

Au revoir and good-bye!

JOLLYING THE TAXPAYERS

The Bureau of Internal Revenue of the United States Treasury Department employs an official "cheer dispenser." Corporations and individuals who have received the recent issue of the pamphlet prepared by this official public jollier, "Income Tax Facts You Should Know," were no doubt amused and their financial burdens considerably lightened by the official assertion that "a man who pays an income tax this year has several reasons for which to be thankful." And then the official "cheer dispenser" proceeds to enumerate these reasons for thanksgiving: First, that the taxpayer's income for 1919 was sufficient to place it within the taxable list; second, that the normal rates for 1919 are lower than for 1918; and third, that the current Revenue Act is more liberal than preceding acts. At best, Commissioner Roper's administration of the Income Tax Law is an undesirable and unpopular job, and it is evident that he intends to make the job more popular by keeping the public good natured during the process of abstraction.

 A TRAGEDY

Samuel Gompers, the most widely known and widely quoted labor leader in the world, president of the American Federation of Labor, was seventy years of age on the 27th of January. During his sixty-ninth year he passed through experiences which would have tested the endurance and stability of a much younger man. Throughout the year there was a steadily growing but not well defined opposition to Mr. Gompers as the leader of organized American labor. Mr. Gompers' qualities as a labor leader have been questioned by a great many people in the United States, but the fact that a man could develop from the cigar makers' bench at which, until 1882, Mr. Gompers earned his daily bread and become unquestionably the recognized leader of such an organization as the American Federation of Labor, has won for Mr. Gompers a high regard for his ability. And it was interesting to note

that it was upon Mr. Gompers' seventieth birthday that Local 144 of the Cigar Makers' International Union rejected Mr. Gompers as one of its delegates to the national convention of that union. Since becoming president of the American Federation of Labor, Mr. Gompers has been one of the official representatives of his local, and this is the first time in his history as a laborite that he has been coldly and inconsiderately turned down for younger men. Significant indeed are the words of the secretary of Local 144 in explaining the defeat of Mr. Gompers when he said, "I believe that the failure to elect Mr. Gompers as a delegate was due to the influence of the younger men in the union. They are progressive and believe that Mr. Gompers is too conservative to advance the cause of labor with proper speed."

It is tragic that Mr. Gompers' seventieth birthday was made unhappy by this unexpected defeat at the hands of his associates, but it is much more tragic to those who have watched Mr. Gompers' recent activities that Local Union 144 announces itself as considering Mr. Gompers "too conservative."

REJUVENATION OF BUTTE

Butte, Montana, associated with much of the interesting romance as well as finance of the mining industry, is "coming back." Many of the old mines are being reopened; the old-time miners are returning to the camp. If Butte can be kept clear of labor disturbances, long the bane of that district, it is probable that it will once more occupy its unique position as the greatest of copper camps. Copper, by the way, is also "coming back" strong. The Lake Superior mines are planning for a big year; the foreign market has been broken into by the Calumet & Hecla, which has just sold ten million pounds to allied countries. Recently twenty million pounds of copper were exported to Germany and in the resumption of commerce and constructive work, not only in the allied countries but in the new republic of Germany, it is probable that American copper will play a very important part.

THE RIGHT TO STRIKE

Unconsciously, or perhaps more correctly speaking, subconsciously, there is growing throughout the United States a deep-seated belief in the rights of the unorganized majority. There is nothing in the Constitution of the United States which indicates that a man must join a union in order to earn an honest living. A man, under the Constitution and so far as we have been able to learn under the laws of this country, has a right to be a carpenter, a painter, a miner, a jeweler, a lawyer, or whatever his fancy commands, and can earn whatever his skill is worth in any form of labor without being interfered with by any man or group of men.

Organized labor has attempted through its absolutism to destroy the personal and Constitutional rights of every man who does not and feels that he should not join a labor union. Coercion, sometimes in the most obnoxious and dastardly forms, prevents hundreds and thousands of men from earning an honest and undisturbed livelihood because they object to signing certain union agreements. The act of the labor union in preventing any man from earning his living is in effect, if not in fact, an unconstitutional and to an extent a criminal act, and yet a few hundred thousand men injecting themselves forcibly upon the public in a dominating spirit have continually, persistently and effectively defeated the law and the Constitution; but beyond the rights of the individual are the rights of the collective and unorganized majority, and slowly but most certainly there is being established in the minds of thinking men an old principle of common law made new by resurrection. This principle was recently and tersely expressed by George H. Bailey, the General Counsel of the American Mining Congress, in these words:

"The right to strike is a qualified right, which ceases and becomes a conspiracy against the Government when it interferes with the production and distribution of the necessities of life."

This expression, adopted as a basic principle of activity on the part of the American Mining Congress, is meeting with general commendation and will, we believe, in case the Courts of the United States are called upon to render a decision, become an accepted principle of law.

SEDITION BILLS

There is always danger that the pendulum may swing beyond the line of gravity and become a destructive rather than a constructive force.

Months ago, long before the leaders in industry would admit the truth, the officers of the American Mining Congress sounded a warning in public and private that radicalism was abroad in the land; that Bolshevism in Americanized form was striving to gain a foothold in this country; and that intelligent, careful, but prompt and effectual action should be taken by the business interests of the country in time to prevent the serious growth of the movement to engulf the nation.

For a long time, even in the face of the fact that the Lusk Investigating Committee in New York was unearthing evidence disclosing the existence of a well-defined conspiracy against the Government warnings went unheeded. It is true that a group of business men—producers of coal, petroleum, minerals, and manufactured goods, and a few of the more serious students among the leaders in the banking world—organized an investigative movement.

And the investigation following developed the startling fact that anarchy was becoming a popular plaything; sedition was openly taught; that revolution was being advocated; and that hundreds of thousands of men in round figures, a full million in New York City alone, were enlisted in several revolutionary, communistic, and radical socialist movements, all having for their object the final overthrow of the present form of government and the establishment of some sort of a political and financial Utopia in the United States.

The first open evidence that union labor had become permeated with this sort of Russian poison was when, in the face of appeals to rationalism and with a knowledge that once started it might not end until it had either destroyed itself or the American people as a government, the steel strike was called.

The second indication came when, in the face of appeals of the President of the United States and the knowledge that their action might impoverish thousands, cause general commercial disruption, and destroy human life, the leaders of the coal strike called their men from the bituminous mines and gloried in the fact that the whole country was soon made to suffer.

And when it was shown that the men back of these movements were extremists, not openly avowed revolutionists but thoroughly imbued with the spirit of revolution, there was no repudiation of either spirit or men by the American Federation of Labor, of which the striking organizations were a very important integral part. When the Government called a labor conference to find, if possible, the panacea for the existing troubles, Mr. Gompers and the labor group constituted a large proportion of the objecting elements in the conference, and the conference finally disintegrated because of the impossibility of reaching a decision. The adjournment of the labor conference without an effort at reconciliation between worker and employer had one very good commendatory result. It forced activity upon the Department of Justice. The Attorney General, who had been accumulating evidence as to the activities of radicals and had unearthed some startling information, immediately threw his dragnets over the country and began a round-up which, the citizens of the country are happy to note, has resulted in a partial house-cleaning—the deportation of a number of obnoxious trouble makers and the incarceration, with the probability of future deportation, of thousands more of these undesirables.

To make the Government's campaign

more effective, to protect the Government from complete engulfment in the way of radicalism, to hold up the hands of the men and organizations who are fighting to eradicate the spirit of anarchy from the United States, certain bills were planned along drastic lines. The framers believe that the United State of America is no place for the man who is not for this Government. They believe that the alien who comes here should live peacefully, lawfully, and respectfully under the laws which have been given him by the framers of the Constitution and the Congress of the United States. They believe that the hyphenated citizens and the misguided theorists, who preach dissolution of the Government and disobedience of the law and seizure or nationalization by force of public and private industry, belong in some other land, and hence the radical and drastic provisions of the Sedition Bills. With due regard for the judgment of the publishers and labor leaders who are endeavoring to prevent the passage of the Sedition Bills, and some of their objections are well founded, the MINING CONGRESS JOURNAL believes that the Congress of the United States should make it impossible for anarchists, radical socialists, revolutionists, and Bolsheviks to live in this country in peace. The man, or the group of men, attacking the Constitution of the United States, attempting to destroy the basic principles of the Union, blocking industry, or preaching sabotage should either be incarcerated permanently or deported to lands which seem to be in accord with their ideals.

INDUSTRIAL CONSUMPTION OF GOLD

The actual sale of gold bars to the trades during the calendar year, made by the New York, Philadelphia, San Francisco and Denver offices of the U. S. Mint Service, totaled \$76,837,600. To this amount has been added \$3,500,000 to allow for the gold coin used for manufacturing purposes, thus making a total of \$80,337,600, an increase of \$27,927,860, or 53.2 per cent, over the 1918 trade

consumption. For the first time in the history of the country gold was exported to Europe for manufacturing purposes. Of the total sales of gold bars to the trades during 1919, which amounted to \$76,837,600, \$14,538,119 was exported for manufacturing purposes. The production of new gold during 1919, as reported by the U. S. Mint, was \$58,488,800, an amount which failed to equal that consumed by the trades for manufacturing purposes by \$21,848,800, or 37.4 per cent. In 1915, \$63,215,673 was the highest amount produced in excess of that consumed in the trades for the past decade, which amount has declined progressively until, in 1918, the surplus was but \$16,236,960, due entirely to a decline in production, since the amounts of gold consumed in the trades are practically equal for the years 1916, 1917, and 1918. This last year, however, due to a continued decline in the gold production, coupled with a still greater increase in the consumption of gold in the arts, a shortage has occurred for the first time in the history of the country.

It is evident that the conditions which produced the economic pressure which has forced and will continue to force a decline in the gold output will, on the other hand, be in favor of an expansion in the jewelry trade and the volume of gold consumed therein, and that, therefore, with the same economic conditions continuing through 1920, the consumption of gold in the arts probably will be more rather than less than that of 1919. With the same consumption in the arts, the estimate of \$40,000,000 as the production for 1920 will leave a deficiency in excess of \$40,000,000 this year.

To safeguard the monetary gold reserve from this heavy depletion by industrial use, the excise and premium proposal will soon be suggested for the consideration of Congress. The bill merely creates the machinery by which the consumers of gold in manufactures and the arts may be supplied with sufficient gold to meet their requirements without drawing upon the monetary reserves which sustain the country's credit. This is to be accomplished by an excise which will

enable the gold producer to increase the output to satisfy the anticipated trade requirements.

GEO. OTIS SMITH TALKS ON NATURAL GAS CONSERVATION

In the course of an address at the National Gas Conference, George Otis Smith, Director of the United States Geological Survey, said:

"Natural gas, with its millions of users, is one of the great public utilities. Like the power companies, the gas company deals in service to the public, and the quality of that service is logically the measure of the corporation's standing in the community and in the nation. In one of the engineering journals a recent article, in describing a great interstate power system, classified the causes of interrupted service on their lines. While lightning and sleet and high winds, which must be put outside the control of either company or customer, together caused 33 per cent of breakdowns, failure of the customers' apparatus and their carelessness in operation aggregated 35 per cent interruption in service, while the corresponding figure for company failure and carelessness was less than 10 per cent.

"This illustration from another field of public service is doubtless in line with experience in the natural gas industry. In the matter of waste today, I am told the customers must be charged with far the greatest amount, and the fact that they have paid for what they waste will not clear them at the bar of public opinion. Ownership is today defined more and more in terms of good use; miser and spendthrift are alike outside the pale of the best society. It is probably true that the market price of natural gas has been too low to encourage economy in its use. So, quantity and the quality of service rendered the public largely depend upon the consumers, and a large national end may be attained by this conference if the natural gas industry and the public utility commissions work together to educate the general public. Thrift in the uses of natural resources like other economies needs to begin in the home."

Lake Movement of Iron Ore

The total movement of iron ore by water from the Lake Superior region during the season just closed amounted to 47,177,395 tons, an anticipated decrease from that of 1918, when it amounted to 61,156,732 tons. These shipments were the smallest in the last four years, the decrease being chiefly the result of labor troubles.—Bureau of Mines.

The Edison Storage Battery Co. announces the removal of its District Office in Pittsburgh, Pa., to Room 431, Union Arcade Bldg.

The removal has been made necessary by the tremendous increase in the volume of business handled through this office. The new location provides better facilities and has large office space.

MANNING URGES COOPERATION

TO PREVENT GAS WASTE

Summing up his speech before the National Gas Conference, Van H. Manning, director of the United States Bureau of Mines, said:

"In conclusion, I might say that no one in particular in the industry has been to blame, but there are opportunities for all to improve, and methods of improvement can be instituted which will definitely insure valuable returns to all concerned, as has been shown by the field operations in the Osage Nation. This end of the problem is probably a little easier to handle than the utilization end. Here we have a rather complex system of production problems in one state, transportation systems in another, and utilization problems in still another. Thus it would seem that, aside from educating the general public on conservation methods and showing them wherein they save for the producer they ultimately save for themselves, the various utilities and intra-commerce commissions will necessarily have to work hand in hand and devise and work out problems so that there will be an amicable understanding and a fair consideration of the problems of others, in every case.

"Cooperation, then, should be our keynote, with specific examples before us on which to build up our general plans. It is, therefore, earnestly hoped that, with the information at hand, some method of increasing our ultimate supply, by more efficient production, transportation, and utilization, may be consummated.

"That the problems we are attempting to solve cannot be overestimated cannot be better emphasized than by pointing out to you the condition which would confront us provided our supply of natural gas were suddenly taken away. Not only would it be necessary for us to turn to another fuel at a greater cost, but inasmuch as the utilization of natural gas might be considered a labor-saving device, we would ultimately take away some of the comforts that have been given us by the foundation of this important industry."

STATUS OF WAR MINERALS RELIEF CLAIMS IS SHOWN

The status of war mineral claims as of January 10 is shown by the following:

Total number of claims allowed in part.....	43
Total amount claimed therein....	\$1,904,405.23
Total amount recommended therein.....	\$576,781.78
Average percentage recommended.....	30

Status of Funds

Amount of appropriation.....	\$8,500,000.00
Total expenses to date \$173,000.00	
Total awards to date 576,781.78	
	749,781.78
Balance.....	\$7,750,218.22

PRESIDENT'S COAL COMMISSION HEARS OPERATORS AND WORKERS

Other than to say that the President's Coal Commission very evidently expects to render an award within the time limit suggested by the President, sixty days, few deductions are possible. The following condensed summary of the proceedings are of greatest importance, however, since never before have many of the principles involved been subject to arbitration. The proceedings are reviewed in chronological order:

Hearings before the commission of three appointed by President Wilson to inquire into the bituminous coal situation, began Monday, January 12, in the Red Cross Building, with Henry M. Robinson presiding as chairman. The other members of the commission are Rembrandt Peale, representing the operators, and John P. White, the miners.

A preliminary general presentation of their respective cases by operators and miners occupied the proceedings up to Thursday, January 15, when the commission adjourned until the 19th to allow the operators to conclude their side, after which both sides, it was agreed, would go into detail on the various questions raised offering various data in support of their claims.

Speaking for the miners were John L. Lewis, acting president of the United Mine Workers of America, William Green, secretary and treasurer of the Mine Workers, and, representing the several districts in the Central Competitive Field, were President Murray of Pennsylvania, President John Moore of Ohio, President Edward Stewart of Indiana, and President Frank Farrington of Illinois.

THE MINERS' DEMANDS

The keynote speech of President Lewis, on the opening day, taken in conjunction with the statements of the four district presidents, emphasized that the miners are before the commission with the demands formulated at their Cleveland Convention unmodified, these demands including the 60 per cent increase in wages, a six-hour day and five days a week. The miners' representatives outlined a comprehensive field of inquiry from their own viewpoint, embracing matters pertaining to wage scales, working conditions in the mines, differentials, and other points which they regard as being involved in the controversy.

OPERATORS' REPLY

The operators replied to the miners' demands through Ralph Crews of the law firm of Shearman & Sterling of New York, and Phil H. Penna, secretary of the Indiana Association of Bituminous Coal Operators. They argued that the miners' demands for more wages and shorter hours were unreasonable, inasmuch as the 14 per cent increase now in effect more than covers any increase in the cost of living which the miners have been compelled to meet, and that shorter

hours would curtail production and thus make coal prices higher. They pointed out that the introduction into the controversy by the miners of local differences, differentials, etc., opened up before the commission an unending field of inquiry of which it would be almost impossible for the commission ever to make an end. Mr. Penna asked for legislation to compel the United Mine Workers to keep the contracts they make with the operators through collective bargaining, declaring that the present system of collective bargaining, to which one side was an irresponsible party, was a farce.

CHAIRMAN ROBINSON OUTLINES SCOPE

In opening the hearing, Chairman Robinson said he would like to explain his own position as representing the public in the inquiry. He said he had been for twenty years—and up until three years ago—interested in coal lands, and so had a business knowledge of the industry; that he had never, however, been connected with the operation of mines. He urged the necessity for haste in finishing the work before the commission to keep within the 60-day limit suggested by the President, and stated that the scope of the inquiry would not be confined to the Central Competitive Field, which includes Western Pennsylvania, Ohio, Indiana and Illinois, but that the basis arrived at for the Central Competitive Field would be used in determining the findings for the outlying districts.

The secretarial force of the commission was announced as follows: Herbert M. Shenton, executive secretary; Samuel A. Taylor, technical adviser; Alexander C. King, counsel; Charles O'Neill, Percy Tetlow and E. A. Goldenweiser, secretaries; K. C. Adams, director of information; Mrs. Mary Burke East, official stenographer.

MR. LEWIS SPEAKS FOR MINERS

Early in the first day's proceedings, Chairman Robinson asked Mr. Lewis, spokesman for the miners, if the United Mine Workers were there to assist in the investigation and if they were willing to submit to the award of the commission. Mr. Lewis replied that the Mine Workers were prepared to assist in every way; that they submitted their interests to the commission "without reservation and would abide by its judgment."

OPERATORS PUT IN QUESTIONS

When Chairman Robinson put the same question to Thomas T. Brewster, chairman of the Seale Committee of Bituminous Operators of the Central Competitive Field, Mr. Brewster replied that, before answering the question, the operators desired to submit a written statement of their position, embracing ten questions, the answers to which would enable the operators to define their attitude toward the inquiry. The

statement of the operators, after expressing hearty accord with any plan to settle the present controversy, put the questions upon which the operators desired enlightenment as follows:

First: Is it the intention of the commission to investigate and act upon matters in the Central Competitive Field only?

Second: Will the award of the commission be final and constitute a contract, binding upon both parties?

Third: Will the commission in its award provide a method by which the contract entered into may be enforced?

Fourth: Will the commission investigate and act upon matters brought before it by either party, including the "check-off" system now in effect?

Fifth: Will the commission fix the basic principles upon which evidence is to be submitted, particularly with regard to wages?

Sixth: Does the commission understand that it has the authority, should the facts warrant such findings, to adjust wages, either upward or downward?

Seventh: Does the commission consider it practicable to make a retroactive award, either as to wages or selling price of coal?

Eighth: Will the commission immediately determine the cost of coal during the year 1919, and the present cost based upon the 14 per cent advance granted the miners, to determine fair selling prices, to be effective at once, having in mind the fair and reasonable profit provided by law?

Ninth: Will the commission's awards as to the selling price of coal be made to expire simultaneously with the expiration of the Lever Law?

Tenth: Will the commission provide in its award for the introduction of modern devices, which may serve to reduce the cost of coal, and consequently the cost to the public?

OPERATORS WANT ISSUE CLARIFIED

Chairman Robinson asked Mr. Brewster if the operators intended to make the answering of these questions a condition precedent to their agreeing to accept the award of the commission. Mr. Brewster stated that the purpose of submitting the questions was merely to clarify the issue.

Mr. Brewster suggested that the main issue before the commission was the miners' demand for more wages. The operators, he said, were ready to cooperate with the commission to provide the fullest information possible on this question and that the operators felt they should be bound by the decision of the commission upon this point. When asked by Chairman Robinson if that was as far as the operators at present were willing to go, Mr. Brewster replied:

"No, that is only the door."

Upon suggestion by Mr. Penna, the commission recessed until the next day, Tuesday, to give the operators an opportunity to outline their attitude before the commission. Meanwhile, Chairman Robinson promised that the commission would consider the questions submitted by the operators and make a statement on them later.

SAYS OPERATORS WILL COOPERATE

The position of the operators was fully outlined at the opening of the second day's hearing by Mr. Crews in a written statement which he read before the commission. In this statement, the operators declared they were willing to cooperate fully with the commission and abide by its findings, with one reservation:

"That they are advised that they may not lawfully be parties to any arrangement by which the price of coal is fixed beyond the date when the Lever Law shall be effective, and they, therefore, will be bound by any action of the commission fixing prices only during such period of time as the Lever Law shall be effective."

The statement further said that the operators would submit to the award of the commission "with the understanding that the award shall embrace a decision, binding upon the miners and operators, and shall in and of itself constitute the final contract between the miners and operators for such period of time as shall be finally fixed by the commission."

OPERATORS' PRICE FIXING RESERVATION

Chairman Robinson asked Mr. Crews if the operators insisted upon the phrase "shall in and of itself constitute the final contract between miners and operators." Mr. Crews explained that the operators did not insist upon this phraseology; that they only wanted the award of the commission so final and conclusive that there could be nothing left for further discussion.

Further questions and explanations brought out that the operators' reservation was concerned with price fixing solely.

FOR COMMISSION TO DECIDE

Acting President Lewis of the United Mine Workers raised a point as to whether the operators' reservation carried with it an implied opportunity for either side in the controversy to avoid making an agreement following the commission's award. Chairman Robinson answered that Mr. Crews had said this was for the commission to decide, whereupon Mr. Lewis stated that the chairman's statement cleared the record sufficiently for him.

Referring to a statement made in a letter by President Wilson on the coal situation, in which the President said, "I understand the operators have generally agreed to absorbing the increase of 14 per cent in wages so that the public would pay not to exceed the present price fixed by the Fuel Administration," Mr. Crews said that the operators at no time had said they would waive any rights that might be theirs as to contracts for the sale of coal. He asked to insert in the record a letter from the operators to Dr. Garfield defining their acceptance of the 14 per cent proposal.

MINERS WANT "FAIR LIVING WAGE"

Acting President Lewis addressed the commission as the miners' representative, outlining their demands. He said the miners believed they were entitled to a "fair living wage, and the best working conditions that can be provided," and that

their occupation should be rendered "more healthful and less hazardous." He reviewed the demands of the miners formulated at the Cleveland Convention, embracing:

A 60 per cent increase in all day labor, tonnage yardage and dead work; a 6-hour day, five days a week; time and one-half for overtime and double time for Sundays and holidays. The miners also wanted internal differences, not covered by interstate joint agreement, to be referred back to the respective districts for adjustments.

INCREASED WAGE AND SHORTER DAY

Mr. Lewis said the miners had received no increase in wages since October 6, 1917, until the recent application of the 14 per cent by the Government, and that meanwhile "the cost of living has advanced more rapidly to the miner than to nearly any other class of artisan." Arguing for a shorter working day, Mr. Lewis said such an arrangement was not for the purpose of giving the miners more idle time, but to give them "continuity of employment," declaring that, at present, the miner worked only part time, because the mines operated on an average only 200 days in the year.

SECRETARY WILSON'S 31.6 PER CENT

Secretary-Treasurer Green, who followed Mr. Lewis, insisted that the 14 per cent increase in wages proposed by the Fuel Administration was not sufficient to meet the increased cost of living for the miners, and pointed out that Secretary of Labor Wilson had decided that the miners were entitled to an increase of 31.6 per cent.

DIFFERENTIALS AND INTERNAL QUESTIONS

The subject of differentials and internal working conditions in the Pittsburgh district was introduced by President Murray of District No. 5, United Mine Workers. Mr. Murray presented to the commission five points upon which the miners of his district desired action. They were: compensation for the removal of slate; differentials between the thick-vein and thin-veined portions of the district; abolition of charges for the use of safety lamps; free powder; objection by the miners to pushing pit cars.

"A FAIR ADVANCE"

At the third day's hearing, January 14, President Moore of District No. 6, of Ohio, stated that the 60 per cent increase would only be "a fair advance." Mr. Moore touched upon hours of employment and internal working conditions in his district, representing that the miners in Ohio worked more than eight hours a day. The mule driver, for example, he said, was obliged to take the mules to and from the job on his own time, Mr. Moore contending that the operator should pay for this work.

OTHER POINTS RAISED

President Stewart of the Indiana miners took up the hours of working for hoisting engineers and firemen, who, he said, were compelled to work ten or twelve hours for eight hours' pay. The question of pay for the removal of slate, differ-

entials between pick and machine mining and the division of work between mines operated by the same company, together with the question of payment of shot-firers by operators and the blacksmithing bills which the miners must pay, were also touched upon by Mr. Stewart.

"MODEST DEMAND"

President Farrington, of Illinois, declared, in opening his argument before the commission, that the demand for a 60 per cent increase in wages "is a modest one, and even though granted would not give to the mine workers the wage that would enable them to live in a way that they should be able to live." Mr. Farrington criticized Dr. Garfield's figures upon which, as Fuel Administrator, the latter based his opinion that a 14 per cent increase would cover the increase in the cost of living for the miners. He said that the men who were paid the "maximum inside day wage scale in Illinois" now received the "munificent" sum of \$5.70 for eight hours' work.

FARRINGTON'S FIGURES

Mr. Farrington presented to the commission these figures, showing, he said, the average yearly earnings of the miners in the Illinois district from February 1, 1913, to July 1, 1919:

1913-14.....	\$704.68	1916-17.....	\$775.09
1914-15.....	649.82	1917-18.....	944.65
1915-16.....	671.76	1918-19.....	1,390.38
January 1, 1919-July 1, 1919—\$572.08			

Miners in the Illinois district, Mr. Farrington said, were able to get work on an average of only 201 days a year.

In the year 1914, Mr. Farrington said the unions paid more than \$500,000 to miners out of work and their families. The miner, he declared, was a patriotic citizen, eager to work but unable to get sufficient work. He said the Illinois miners had purchased \$50,000,000 worth of Liberty Bonds, but that 90 per cent had been forced to sell their bonds at a discount, after the armistice to enable them to live and keep their dependents.

COST OF LIVING FIGURES

Mr. Farrington presented to the commission statistics of five mining towns in the Illinois district, compiled, he said, upon the food, clothing and essential commodities which the miners purchased, which showed an average increase in price of 143 per cent since 1913.

At Hillsboro, Ill., where 55 items were taken into consideration, the increase was 110 per cent; at Belleville, where 44 items were considered, the increase was 131 per cent; at Spring Valley, where 45 items were considered, the increase was 110 per cent; at La Salle, where 56 items were considered, the increase was 129 per cent, and at Canton, where 32 items were considered, the increase was 178 per cent.

Mr. Farrington said the mining industry was the only big industry in the country where workers were not allowed extra compensation for their overtime. He discussed the weekly pay, internal differences of the Illinois field as between the thin

and thick coal seams, double shift, differentials between pick and machine yardage, mine examiners' wages, slate removal, explosives, the electric lamp, the docking rule and the four cents differential in southern Illinois.

CREWS SPEAKS FOR OPERATORS

In opening the operators' case before the commission, Mr. Crews pointed out that "it would be a task of almost unending difficulty for the commission to undertake seriatim to consider and discuss all the problems that have been presented by the miners."

"In my judgment," said Mr. Crews, "you must deal as a whole with the situation that has been produced by 33 years of bargaining, or you gentlemen must be reconciled to deal with this industry for months and months to come."

Mr. Crews said that in his opinion the wage scale was the entire issue before the commission.

He read to the commission the reply of the operators to the demands which the miners made at the Cleveland convention, in which the operators said that the demands of the miners carried with them a repudiation of their contract, which was to run "during continuation of the war and not to exceed two years from April 1, 1918."

OPERATORS ANSWER MINERS

In this letter, the operators stated that national necessity for the greatest possible production would not permit curtailment of the working time; that the proposed 60 per cent increase in wages would more than double the already high cost of producing coal; that the automatic penalty clause was necessary on account of the "inability of the union officials to prevent illegal strikes in violation of contract obligations."

Mr. Crews quoted a letter from Dr. Garfield to Chairman Brewster of the Operators' Scale Committee, in which Dr. Garfield said that the Washington Wage Agreement does not expire "until peace is promulgated, or until the first of April, 1920."

STRIKE DEPLORED BY PRESIDENT

Mr. Crews placed on record the order of Acting President Lewis, issued October 4, 1919, calling a general strike in the bituminous coal industry. He quoted a letter from President Wilson to Secretary of Labor Wilson in which it was suggested that the dispute between the miners and operators should be referred to a Board of Arbitration, and read the statement of President Wilson of October 25, in which the President deplored the proposed strike. In this statement, the President pointed out that the miners, in going on strike, would abrogate their contract; would bring great hardship to the country, and that "a strike under these circumstances is not only unjustifiable, it is unlawful." Mr. Crews told the commission that figures would be presented which "will disclose the staggering consequences that would follow the granting of a demand for the wage schedule to be increased 60 per cent."

SAYS 14 PER CENT ENOUGH

Mr. Crews said that inasmuch as the miners' application for an advance in wages made in

August, 1918, had been declined by the Fuel Administrator, supported by the President, it was evident that the Government considered that the miners' wages were adequate up to that date. Since that date, he said that, in his opinion, the 14 per cent difference has amply compensated for any increase in the cost of living.

The miners' wish for a shorter working time, Mr. Crews characterized as "a perfectly natural manifestation of a perfectly natural human desire," saying that he, himself, would like to work under such circumscribed hours and that doubtless, the commission would likewise, but that, unfortunately, it was not possible of accomplishment. He said it was not fair for the miners to expect to be paid for the time occupied in getting to their working places.

OCCUPATION "NOT INJURIOUS"

Mr. Crews continued his presentation of the operators' case before the commission on the fourth day of the hearing, by taking up the claim made by Acting President Lewis that the miners' occupation is injurious to health. Mr. Crews pointed to Acting President Lewis, Secretary Green, Mr. Farrington and Commissioner White, as examples of the robust physique developed by mining.

Mr. Crews stated that shorter hours would not distribute the working time at the mines over a longer period, and so give the miner greater continuity of employment, because of the fact that mining is a seasonable business, owing to the fluctuation of the public's demands for coal. When the mines otherwise could run at capacity, Mr. Crews stated, the car supply becomes the limiting factor.

PENNA STATES CASE

Mr. Penna, in opening his statement of the operators' case, said that the operators were heartily in accord with the desire of the miners for constantly improving their standard of living. He declared, however, that they considered the present schedule of wages adequate to a respectable standard of living. If a man is satisfied to get along on what he can make by working only two or three days a week, Mr. Penna pointed out, "no legislation can arouse that man's ambitions and desire to improve his surroundings."

The higher schedule of wages, Mr. Penna stated, would not relieve the burden of unemployment, due to the seasonable nature of the mining industry. He said there must be a limit to the movement reducing hours of labor in industry and that in his opinion, that limit had been reached in the bituminous coal industry with the eight-hour day. Any further reduction, he said, would curtail production and send up the price of coal.

Mr. Penna had always been a champion of the system of collective bargaining, he said, but agreed that "collective bargaining with responsibility on one side and irresponsibility the greatest asset of the other party, is a farce."

(Continued on page 86)

NATIONAL LEGISLATION

The Senate on January 5 passed S.2189, providing for agricultural entries on coal lands in Alaska. On January 28 the Senate also passed S.3315 known as the "Americanization Bill." Hearings have been continued during the month on tariff measures, the Senate Finance Committee giving special attention to the Tungsten Bill, which it is anticipated will be reported out of the committee at a very early date. The House Mines and Mining Committee has been holding hearings upon H. J. Res. 170, the bill to liberalize the War Minerals Act. A detailed report of what has been done at these hearings will be found in another part of the JOURNAL. The Leasing Bill hit a snag on Section 18 through Mr. Sinnott. However, the difficulties are gradually being ironed out and Senator Smoot believes that the committee will report a bill at an early date. There have been some considerable changes made, which the committee have not yet announced. The following bills, of interest to the mining industry, have been introduced since our last issue:

Coal

S. J. Res. 146, Income Tax.—Introduced by Mr. Harris and referred to the Committee on Finance, provides that the Secretary of the Treasury be directed to furnish the Senate information concerning the income and profits tax returns for the taxable year of 1918 of all corporations as follows:

"Capital stock; invested capital; net income; tax (1) income, (2) excess profits, (3) total; per centum of total tax to net income; net income, after deducting tax; per centum of net income to capital stock; per centum of net income to invested capital; per centum of net income, after deducting tax, to capital stock; per centum of net income, after deducting tax, to invested capital; capital stock, 1917; net income, 1917; per centum of net income to capital stock, 1917; excess of the per centum of net income to capital stock for 1918 above the percentage for 1917.

"That the information be transmitted in form similar to that obtaining in Senate Document Numbered 259, Sixty-fifth Congress, second session, which contains the information transmitted by the Secretary of the Treasury in response to the resolution of the Senate of June 6, 1918, and that the corporations be listed in

the same sequence and under the same symbols, as far as possible, as obtain in Senate Document Numbered 259."

H. R. 11952, Coal Export.—Introduced by Mr. Dyer, referred to the Committee on Interstate and Foreign Commerce. The Bill prohibits the export of coal from the United States, and is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That from and after the passage of this Act it shall be unlawful to export from or ship from or take out of the United States any anthracite or bituminous coal, clum, slag, shale, coke, or any compositions used for fuel of which coal or coal dust is the component material of chief value.

"Sec. 2. That any person, firm, or corporation who shall export, ship, or take out, or deliver or attempt to deliver for export, shipment, or taking out, any article in violation of this Act or of any regulation or order made hereunder, shall be fined not more than \$10,000, or, if a natural person, imprisoned for not more than five years, or both; and any article so delivered or exported, shipped, or taken out, or so attempted to be delivered or exported, shipped, or taken out, shall be seized and forfeited to the United States; and any officer, director, or agent of a corporation who participates in any such violation shall be liable to like fine or imprisonment, or both.

"Sec. 3. That the Secretary of the Treasury is hereby authorized and directed to make all necessary regulations and orders for the purpose of carrying out the provisions of this Act.

"Sec. 4. That this Act shall remain in full force and effect for a period of five years from the date of the passage thereof."

Blue Sky Law

S. 3702, Regulating Sale of Stock.—Introduced by Mr. Kenyon, referred to the Committee on Interstate Commerce, regulates the issuance of stock by corporations engaged in interstate commerce. The bill provides that whenever an offering is made to the public of an original issue security by any corporation engaged in interstate commerce it shall file with the United States Postmaster at its legal address and with the Federal Trade Commission at Washington, a statement showing the purposes for which the corporation is organized; its officers and directors with their residences; the last balance sheet of the corporation, showing in detail all payments for tangible and intangible property, good will, promotion fees, and all other agreements for the disbursement of money except that used for the purposes to which the proceeds of the sale of the new security are to

be devoted; the terms of the flotation showing the price at which the securities are sold; the estimated expense of the flotation; the name of the underwriters, the terms of the underwriting, and the names of and terms by which subunderwriters, syndicates, bankers, brokers and others deal in the original sale of such securities. Section 2 provides that the statement above provided for shall be a public record; that every demand, prospectus or circular offering such securities for sale must contain the information above described, and that copy of the same must be attached to each bond, certificate of preferred or common stock and to each receipt or certificate evidencing a subscription to such security. Any false or misleading statement in the statement herein referred to shall constitute perjury, and such persons signing the statement may be proceeded against by the district attorney. Section 3 provides that any purchaser who may purchase such original issue of security where material misstatement is made in the statement may recover twice the amount of all moneys paid for such original security and may join the issuing company and each of its officers, directors and promoters, as well as the underwriting syndicate; and judgment shall be rendered jointly and severally against each one thereof if and when material misstatement is established. The suit must be brought within one year after the purchaser shall have had knowledge of such material misstatement. Any person who shall mail or cause to be mailed in any post office of the United States any original issue security, knowing that the statement required by this section has not been filed as prescribed by this Act, or who shall mail or cause to be mailed any statement required by this section, knowing same to be false in any particular, shall be fined not less than \$5,000, or imprisoned not more than five years, or both.

Bolshevism

H. R. 11,430, Sedition.—Introduced by Mr. Graham, and referred to the Committee on the Judiciary, from which committee it was reported January 12, amended as follows:

"The bill provides that whoever incites, sets on foot, assists or engages in any rebellion against the United States or the authority or laws thereof or whoever assists or engages in the use of force or violence with intent to destroy or cause to be changed, or to overthrow the Government of the United States, and the death of any person or persons is caused or results directly therefrom, shall be guilty of a felony, and on conviction shall be punished by death, or shall be imprisoned for not more than twenty years or fined not more than \$20,000, or both, and shall forever be debarred from holding office under the United States; in case death does not result, on conviction such persons shall be imprisoned not more than twenty years or fined not more than \$20,000, or both. It provides that no person shall orally, or by writing, printing, or the use of any sign, symbol, picture, caricature, or otherwise teach, incite or encourage forcible

resistance to or destruction of the Government of the United States. Section 12 provides that any alien convicted under the provisions of the Act after serving his sentence shall be deported under the immigration laws. The bill is quite specific, and very clearly and lengthily defines the things which may not be done."

Tariff

H. R. 11,815, Graphite.—Introduced by Mr. Fordney, referred to the Committee on Ways and Means, provides for a duty of 1 cent per pound on crude crystalline graphite ores containing 50 per cent or under of graphite carbon; 2 cents per pound for ores containing over 50 per cent of graphitic carbon; 3 cent per pound for lump and chip crystalline graphite; 6 cents per pound on flake crystalline graphite, crude concentrates, and refined flake; upon all other products, manufactured materials, and compounds containing graphite, crystalline or amorphous, not specifically provided for in this Act, in addition to any duties assessed and collected under existing law, a duty of 5 cents per pound for the graphite therein contained.

S. 3611, Chrome.—Introduced by Mr. McNary, and referred to the Committee on Finance. The bill provides for 50 cents per unit of Cr_2O_3 on crude chrome ores and chromium ores and concentrates thereof; $11\frac{1}{2}$ cents for each pound of metallic chromium upon ferrochrome and other metallic alloys containing chrome; 65 cents per unit of Cr_2O_3 upon refractory brick and material used for refractory purposes, containing chrome; and a tariff of 90 cents per unit of chrome contained in chemical compounds and articles manufactured therefrom containing chrome or chromite. These tariffs shall be collected in addition to any tariff duties now in force.

H. R. 12014, Cobalt.—Introduced by Mr. Rhodes and referred to the committee on Ways and Means. This bill provides that upon the passage of the Act there shall be imposed, levied and collected upon the articles herein named a rate of tariff upon the following: Cobalt, oxide of, 25 cents per pound. Section 2 of the bill provides that on all importations of cobalt, oxide of, there shall be estimated at the port of entry and a bond shall be given in a sum double the amount of such estimated duty for the transportation of said commodity by common carrier bonded for the transportation of appraised or unappraised merchandise to properly equipped sampling establishments, whether designated as bonded warehouses or otherwise. On the arrival of the commodity at such establishments it shall be sampled according to commercial methods under the supervision of government officers, who shall submit the samples obtained to a government assayer, who shall make a proper assay of the sample and report the result to the proper customs officers, and the import duty as provided by the Act shall be liquidated thereon. Section 3 of the bill repeals all existing laws affecting the rate of duty on cobalt.

H. R. 8078, Cobalt.—Introduced in the Senate September 29, 1919, known as the "Dye Bill," was amended January 20 by inserting "25," so that the article shall read "Cobalt, oxide of, 25 cents per pound."

Anti-trust

S. 3720, Combinations.—Introduced by Mr. Smoot, referred to the Committee on Interstate Commerce, amending Section 10 of the law against unlawful restraints and monopolies, approved October 15, 1914, as follows:

"None of the provisions of this section shall be construed to include or apply to any railroad, all of the shares of stock or property of which is owned by a person or corporation whose plant, shops, mills, or factories such railroad is principally engaged in serving, nor to any director, agent, manager, or officer of any such railroad."

Excess Profits Tax

H. R. 11985, Repeal.—Introduced by Mr. Bacharach, referred to the Committee on Ways and Means. This bill provides for the amending of the Revenue Act of 1918 by striking out sections 503, 504, 628, 629 and 630, and inserting therein as follows:

"1. A tax equivalent to 1 cent for each \$1 or fraction thereof of the amount paid for any article of merchandise when sold by a dealer for consumption or use, up to but not including \$500; and 5 cents for each \$1 on any article of merchandise when sold for \$500 and above. Where more than one article is sold in one transaction, the tax shall be computed on the total amount paid for all such articles, but this section shall not apply in any case where the total amount paid is less than 50 cents.

"2. A tax equivalent to one-half of 1 cent for each \$1 or fraction thereof on all real estate sales of \$500 and above.

"3. A tax of 1 cent for each \$1 or fraction thereof on sales of all raw materials taken from mines, woodlands, waters, and so forth.

"4. Such tax shall be paid to the vendor by the purchaser at the time of the sale, and shall be collected, returned, and paid to the United States by the vendor in the manner provided by rules and regulations of the Treasury Department."

Monetary

H. R. 12039, Roosevelt Penny.—Introduced by Mr. Vestal, referred to the Committee on Coinage, Weights and Measures. This bill authorizes the issuance of a Roosevelt $2\frac{1}{2}$ cent coin. The particular interest in this bill centers around the fact that thousands of dollars each year go to the merchants of the country in half cents. Mr. Vestal believes with the coinage of the $2\frac{1}{2}$ cent piece that there would be a considerable saving to the individual.

Miscellaneous

S. 3612, Bureau of Efficiency.—Introduced by Mr. King, referred to the Committee on Civil

Service and Retrenchment. The bill provides for the creation of a Bureau of Efficiency, whose duty it shall be to institute and conduct a thorough and detailed examination of the personnel requirements of the various departments and department offices, to ascertain whether and to what extent any such department or department office has too large or too small a number of employees to enable it to perform its duties properly, and to determine what, if any, employees are unfit or inefficient. If the bureau, after investigation, finds that more employees are assigned to any department than are reasonably necessary to perform the work properly, it shall make formal report to the department head concerned, and recommend that unnecessary employees be either discharged or transferred to another department. The bill appropriates \$50,000 to carry out its purpose.

H. R. 12104, Special Privilege, Cabinet Members.—Introduced by Mr. Mooney and referred to the Committee on the Judiciary. The bill provides that the Secretaries of State, Treasury, War, Navy, Agriculture, Interior, Commerce, Labor, the Attorney General, and the Postmaster General shall be entitled to occupy seats on the floor of the Senate and House of Representatives, with the right to participate in debate on matters relating to the business of their respective departments. They shall attend the opening of the sittings on Tuesday and Friday of each week in the Senate, and on Monday and Thursday of each week in the House of Representatives, to give information asked by resolution or in reply to questions which may be propounded to them under rules of the Senate and House.

S. J. Res. 140, Amending Constitution.—Introduced by Mr. Gore, referred to the Committee on the Judiciary, amending the Constitution by providing that no person other than a citizen of the United States shall be entitled to vote for Senators and Representatives in Congress or for electors to choose a President and a Vice-President when such electors are chosen by direct vote of the people.

Safety Section Gets Results

Records compiled by the Safety Section of the Division of Operation of the United States Railroad Administration show that during the first ten months of 1919 (January to October, inclusive) 1,107 fewer employees were killed and 25,930 fewer employees were injured than during the corresponding period of 1918.

As the Safety Section had really only been organized in time to begin functioning in January, 1919, these figures give concrete evidence of what can be accomplished by teamwork in the application of safety practices, as in other things. The tangible results are that during those ten months over eleven hundred men were spared to their families and their country and over twenty-five thousand men avoided unnecessary suffering or disfigurement.

FRANKLIN DISCUSSES DUTY PROPOSED FOR TUNGSTEN

During the Senate hearing on tungsten ores, an interesting colloquy took place between Nelson Franklin, representing the ore producers, and B. F. Witbeck, a manufacturer of tool steel. The discussion was as follows:

MR. FRANKLIN. I should like to ask the witness a question or two. It appears in the hearings before the Ways and Means Committee of the House that the ore producers were not familiar with the cost of manufacture of high-speed steel. They were familiar with the cost of the manufacture of the ferrotungsten and the compensatory duty as provided in the bill for ferrotungsten is all right—that is conceded by the witness, is it not?

MR. WITBECK. Approximately, I should say; yes, sir.

MR. FRANKLIN. We did not figure on any other operation having to take place to make the high-speed steel—that is, the people who were fathering the bill at the time did not feel that way. For argument sake, we will say—I, as representing the ore producers, have letters from them to that effect, and telegrams—that while the duty as provided as compensatory on high-speed steel was not sufficient in the original bill as passed by the House, and we are perfectly willing that that should be made compensatory, and we so stated in our hearing before the Finance Committee of the Senate.

SENATOR CURTIS. The amount asked by the first witness would be satisfactory?

MR. FRANKLIN. We think it is too much. We think \$1.50 is plenty.

SENATOR CURTIS. Instead of \$1.60, you would make it \$1.50?

MR. FRANKLIN. Instead of \$1.60 as stated by the two witnesses. In other words, Senator, if the producers of high-speed steel in this country cannot sell their product on account of the tariff on ore, we would then be out of a market for our ore, and there would be no necessity for this tariff. We want in that bill what would make it compensatory to the high-speed steel people, and we are perfectly willing that \$1.50 should go in there, and I am authorized to say that.

Now, I would like to ask Mr. Witbeck a question. You gave some figures there to the effect that 15,000 tons was the requirement of tungsten ore in the United States. Those figures are entirely wrong, and therefore it would change all your other figures as to the amount it would cost this country in the tariff on ore. The figure is really only 7,500 tons, the normal requirements—it actually is not that, but I am willing to concede 7,500, although it does not reach that amount.

MR. WITBECK. I am not willing to concede you are right. I think you are basing that on a half year's consumption.

MR. FRANKLIN. No, I am not; I am basing it on 1920 requirement.

MR. WITBECK. I think we can furnish you with figures to prove that I am correct.

SENATOR CURTIS. You go ahead and furnish your figures to the committee, and then Mr. Witbeck can look it over afterwards.

MR. FRANKLIN. I am satisfied you will find that 7,500 tons per year for the next 10 years would be the average requirement.

SENATOR CURTIS. Let him furnish any figures he pleases, and then you can submit counter-figures.

MR. WITBECK. I hope that is not so.

MR. FRANKLIN. What do you do with the scale that comes from your tungsten?

MR. WITBECK. We do not do anything with it.

MR. FRANKLIN. Do you not recover any tungsten from your scale?

MR. WITBECK. We have not found out how to do it; we hope someone will show us how.

MR. FRANKLIN. I could show you how.

MR. WITBECK. At a profit?

MR. FRANKLIN. Yes sir. You should recover some tungsten out of your scale.

MR. WITBECK. You undoubtedly can recover tungsten out of the scale, but can you do it at a profit?

MR. FRANKLIN. You can do it at a profit.

MR. WITBECK. We think it is doubtful whether you can recover tungsten out of the scale at a profit at the present price of tungsten.

MR. FRANKLIN. Right now at the present price of tungsten, it would not be as much as if tungsten was twice as high, I will admit that, but you can recover tungsten and eliminate a good deal of that loss. Supposing we should, according to your argument, close down all the mines in the United States. What would become of this country in event of war with China? You spoke of war with Japan.

MR. WITBECK. I think if you were to take some of the \$12,000,000 you made in 1916, the \$4,000,000 that you made in 1917, the \$6,000,000 you made in 1917, and \$5,000,000 made in 1918—I mean the profit above cost that you derived from that—I think you could do a tremendous amount of developing in the United States, and it seems to me that if the people of the United States are to pay \$30,000,000—

MR. FRANKLIN (interposing). They are not going to pay it.

MR. WITBECK. We think they will pay it—

MR. FRANKLIN (interposing). No.

MR. WITBECK (continuing). As a result of this bill.

MR. FRANKLIN. That is disputed.

MR. WITBECK. We could set a very small part of that aside as a sinking fund for tungsten mine development in the event of war.

MR. FRANKLIN. That part is disputed about the amount it would cost the people.

SENATOR PHIPPS. You would have to get some of that money back which has been paid to the Government in the way of excess-profits tax, would you not? Just like your high-speed tool industry, the mines had to account for their profits and pay their taxation accordingly.

MR. FRANKLIN. You are not familiar with mining—you are not a mining engineer, are you, Mr. Witbeck?

MR. WITBECK. I am familiar with mining, but I am not a mining engineer.

MR. FRANKLIN. You now nothing can be produced unless it is opened up and developed?

MR. WITBECK. That is true.

MR. FRANKLIN. I am here to state as a practical mining operator of 40 years' experience that you cannot produce a mineral unless it is developed and opened up, and we do not know what the big resources are in this country in tungsten until the mines are opened up.

MR. WITBECK. I was simply answering the questions you asked me. You did not ask me the cost of developing to find out how much we did have. That would be a comparatively small expense, if the United States wanted to prepare and find out how much we would have in case of war; they could block out three or four years' needs.

MR. FRANKLIN. You can not block it out; you have to take it out. If you were familiar with mining operations you would know that.

MR. WITBECK. They could block out sufficiently so that they would not have to take any chances in event of war.

MR. FRANKLIN. If you were familiar with mining operations you would know that statement is not true. If you block it out and leave it there it will cave in.

SENATOR CURTIS. We would rather each side would state its case, and then let the committee work it out.

MR. FRANKLIN. I claim his figures are wrong, Mr. Chairman.

SENATOR CURTIS. You can put in any answer that you please in the way of figures, if figures are necessary. I have not had time to go over the figures to see whether they are or not.

MR. FRANKLIN. I simply want to say this: He did make a positive statement that we could not produce the tungsten required in this country, and that if we did go ahead and take out this tungsten we would not have any more tungsten in case of war. I claim that is not true.

SENATOR CURTIS. I think that is a question in regard to which each side should make a showing.

MR. FRANKLIN. I have tried to ask him questions that would prove my contentions.

MR. WITBECK. I am basing my figures on the United States geologists' reports.

A Financial Creed for 1920

I believe in the United States of America.

My opportunity and hope depend upon her future.

I believe that her stability and progress rest upon the industry and thrift of her people.

Therefore I will work hard and live simply.

I will spend less than I earn.

I will use my earnings with care.

I will save consistently.

I will invest thoughtfully.

To increase the financial strength of my country and myself I will buy Government securities.

I will hold above barter the obligations my country thus incurs.

I will do these things to insure the greatness of America's future.

TRADE COMMISSION SENDS LETTER TO COAL OPERATORS

"The Federal Trade Commission, pursuant to a resolution adopted on December 15, 1919, under the powers conferred upon it in Section 6, Paragraphs (a) and (b), of the Federal Trade Commission Act, approved September 26, 1914, and in consideration of a special appropriation by Congress for such purposes, requires your company to report your monthly costs of production and other data as specified, in the form prescribed, in the enclosed schedule and instructions relating thereto.

"Said reports, except as to Balance Sheet, are required monthly for each month of the calendar year 1920, and until further notice is given you, and are required to be mailed not later than the twentieth day of the month succeeding the month for which the report is made; the report as to Balance Sheet is required as of the close of business December 31, 1919, or as of the close of your last fiscal year.

"If the mines are operated by you in more than one field or district, a separate cost report is required for each field or district. A separate cost report may be filed for each mine, if you so elect, provided that you file also a composite cost report for each field or district.

"Your attention is called to the fact that the above-mentioned law provides penalties for delay or failure in the making of reports to the commission, or for making false reports."

Technical Employment Service

The California State Mining Bureau has inaugurated a technical employment service which is offered free of charge in the hope that practical benefit will result to those interested in the mineral industry of this state. A system has been installed whereby records will be kept of technical men who desire positions and of vacancies existing in the staffs of mining or oil companies, plants or reduction works. Companies or individuals are cordially invited to call at any of the offices of the State Mining Bureau or communicate by mail or wire, and every effort will gladly be made to satisfy their wants.

According to State Mineralogist, Fletcher Hamilton, the bureau in undertaking this service has no intention of encroaching on the field of various private and public employment agencies which are already operating. It will not be feasible to attempt to extend this service to labor in general, but it is believed that a real need exists whereby operators who require technical help, such as engineers, geologists, superintendents, surveyors, assayers and others, will be in a position of knowing where they can find those available for technical work, and vice versa.

It is of course understood that the State Mining Bureau will be in no position to make recommendations in any given instance. It will, however, be glad to assist in every possible way in establishing contact between the job and the man, leaving the final arrangements to the contracting parties.

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Paul Wooton, News Editor.
New York Office: 507 Fifth Avenue.
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Iron Ore in Spain

Iron ore was mined in twenty-one provinces in Spain in 1917, among which Viscaya led with 2,464,694 metric tons, while Almeria stood second with 834,522 tons. The total amount produced in 1917 was 5,551,071 metric tons, which is considerably below the average for ten years preceding. The annual production of Spain for a few years before the war amounted to 9,000,000 tons, of which more than 8,000,000 was exported, chiefly to England and Germany, in the ratio of about 2 to 1, the ore going to England supplementing England's domestic Cleveland ore. The Viscaya field furnishes high-grade Bessemer ore that has been in continuous demand, particularly in England, while the Bilbao field has supplied Germany with some of its product. Due to the war, the German market was eliminated, and the decreased shipping

facilities available could not make up the deficit in shipments to England. Hence the lowered output of Spain in the last few years.—Bureau of Mines.

Silver Exports

For the first eleven months of 1919 the value of silver exported to India amounted to \$109,-180,718, while China's share (including Hong Kong) was \$60,125,178. For the first seven months of 1919 the proportion was \$108,273,177 to India and \$17,458,606 to China and Hong Kong. This gives an idea of how the Chinese demand has grown during the past few months, more than trebling itself, while the Indian demand has increased only about one per cent. The large amount of silver shipped to India under the Pittman Act of 1918 ceased in May, 1919, and it is part of this silver which figures so prominently in the totals for 1919.—U. S. Bureau of Mines, Reports of Investigations.

ELECTS OFFICERS

The annual meeting of the Oklahoma, Kansas and Missouri Chapter of the American Mining Congress was held at Joplin, Mo., Tuesday evening, January 22.

Edgar Wallower was elected governor; Fred Bendelari, Charles E. Schwarz, and D. C. Corner were elected vice-governors. The Board of Directors elected is as follows: P. B. Butler, George Coleman, A. M. Gaines, Sidney Davis, J. W. Hoffman, T. J. Franks, C. F. Dike, Frank Weeks, Frank Wallower, T. F. Coyne, and Victor Rakowsky.

Sells Much Surplus Sulphur

The War Department has sold more than 161,000,000 pounds of sulphur, declared surplus since the signing of the armistice. About 14,872,000 pounds of sulphur, surplus and available for sale, is still in possession of the War Department. It is located at the Old Hickory Powder Plant, Jacksonville, Tenn., at Little Rock, Ark., and at Hopewell, Va.

May Purchase Bauxite Mines

It is reported that the Italian Government is arranging to purchase the large Abruzzi and Tarnum bauxite deposits, to be worked by the government. The probable intention is to manufacture aluminum wire to be used in place of copper in the electrification of the Italian railways. Italy's resources of bauxite are sufficiently large to permit production on a large scale.—U. S. Bureau of Mines, Reports of Investigations.

The twenty-second annual meeting of the Canadian Mining Institute will be held at Toronto, Canada, Monday, Tuesday, and Wednesday, March 8th, 9th, and 10th.

Mr. C. W. Knight, Bureau of Mines, Toronto, Canada, is secretary, and members wishing hotel reservations should communicate with him at their earliest convenience.

(Continued from page 79)

SAYS CONTRACT DISREGARDED

"Our contracts," said Mr. Penna, "are not respected, neither generally nor locally, and the reason is because the miners are irresponsible as an association. We are going to ask this commission that it will, in its findings, advise the Congress of the United States, to require in the interests of collective bargaining—that people and associations organized for such purpose, and entering into such pursuits, shall qualify—ask Congress to enact the necessary laws to require certain qualifications."

While recognizing the rights of the laboring man to unionize, Mr. Penna said that with organization comes the contract, and with the contract "there comes, or should come the responsibility necessary to make that contract sacred, or at least, to enforce the contract by penalties for persons who would respect nothing else."

AGAINST REMOVING PENALTY

Arguing against the removal of the automatic penalty clause, Mr. Penna said it was a necessity, to prevent mine workers from closing mines by striking in violation of their contract. To do away with this clause, he said, would remove the only semblance of liability to keep their contracts which the miners have at present.

Mr. Penna attacked the "check-off" system, by which the operators collect dues for the mine workers' officials from the miners' pay. He said the operators desired the abolition of this system "once and for all."

SAYS "CHECK-OFF" NOT NEEDED

"This system was introduced," said Mr. Penna, "for the purpose of enabling the mine workers' officials to unionize their force to the end that they would be able to enforce contracts when they make them. The very purpose for which the institution was created, having failed and disappeared entirely, there is no necessity longer for the system."

Mr. Penna objected to the present system of writing into the contract between miners and operators, sums to be paid for house rent by miners and the price charged them for their domestic coal, as savoring of paternalism, and asked the commission to fix equitable methods of dealing with these things. He also asked the commission that the officers of the United Mine Workers be required to assume responsibility for enforcing the terms of contracts *within* various districts; at present, he pointed out, the union officers are only obligated to enforce contracts *between* districts.

CALLS DEMANDS "INSATIABLE."

Speaking of the miners' demand that all local differences shall be returned to the respective districts for settlement, Mr. Penna said that the miners desired to get all they could "out of this commission in the way of wages, then they want the bars thrown down so that they can go home and, by the use of what they term their 'economic power,' they can shut down the coal mines and

can demand, at the hands of the operators, still further increases."

He said that the operators have been prevented by the union from introducing in the mines new machines that would lower the cost of coal production, because no scale had been made to cover the use of these machines. He asked for authority to introduce time-clocks in the mine.

MAZE OF DETAIL PRESENTED

Mr. Penna concluded by saying that if the commission undertook to disturb the matter of differentials, local differences and internal working conditions, it would get into a "maze of uncertainty and a vast amount of work," and he doubted if it could do a better job in dealing with these numberless interwoven details than the mine workers and the operators have done during their thirty-three years of collective bargaining.

At the conclusion of Mr. Penna's presentation adjournment was taken until Monday, January 19.

WEEK ENDING JANUARY 24, 1920.

In the second week, ending January 24, of the hearings before the Coal Commission appointed by President Wilson to inquire into the bituminous coal situation, the operators of the Central Competitive Field completed their replies to the preliminary demands made by the miners' representatives in the earlier days of the session, while the miners took a day to reiterate and amplify some of the points which they had brought up before.

The operators' viewpoints were expressed by Tracy L. Guthrie for the Pittsburgh district; C. E. Maurer for the Ohio fields; P. H. Penna for the Indiana operators and T. T. Brewster for Illinois. Philip Murray, president of the Mine Workers of Pennsylvania; J. W. Savage, representing several districts in Ohio, and Frank Farrington, president of the Illinois miners, spoke for their side.

The operators went into the questions brought up by the miners last week, each explaining how his particular district would be affected by the new demands of the miners. The operators opposed arguments advanced by the miners, involving many points reaching into the fundamentals of working agreements, arguing that many of these points had already been covered in agreements that had run for years. To upset these fundamentals, the operators argued, would mean overthrowing basic agreements that had been reached after long negotiation.

As in the first week of the hearing, the operators emphasized the point that the real issue before the commission was the wage scale, and that differentials and other matters projected by the miners have no place in the controversy.

NO EXTRAVAGANT PROFITS

During the hearings this week, which were confined to Monday and Tuesday, with only a brief session on Wednesday, the operators indicated that they would produce figures to controvert the claims of the miners that they have been getting low wages, working ten or

more hours a day and that working conditions in the mines are injurious to the miners' health. Figures will also be offered before the commission to show that the operators' profits have not, as claimed by the miners, been extravagant.

Both the miners and the operators will produce statistical data in the hearings next week, in support of the claims made by each side with regard to amount of wages earned, hours and days actually worked. The operators promise figures to show that the miners could, if they wished, work more days than they do.

RESPONSIBILITY OF UNIONS

In answer to the suggestion of the operators, made last week that the commission devise some system whereby officials of the International Unions could be held responsible for carrying out contracts and agreements with the operators. Mr. Farrington, representing the miners of Illinois, took the attitude that such a thing was an impossibility. It would result, he said, in the "congestion of the machinery of the International organization," and would end by causing long delays in the settlement of small questions, thus raising tremendous discontent among the men.

Mr. Penna, for the operators, maintained that, as it now stands, one side is bound and the other side cannot be held responsible for carrying out the terms of signed agreements. Mr. Penna has urged action by Congress to make such contracts binding on both parties.

OPERATORS' REBUTTAL

Among the points stressed by the operators in their rebuttal of the arguments presented by the miners were the question of the payments for the removal of slate of varying degrees of thickness from the coal seams; the difference in basic rates of pay for men employed on thick-vein seams and those who work on thin coal veins, payment for the use of electric cap lamps, and other equipment and safety devices; and the "docking" clause which provides a penalty for the loading of impure or "dirty" coal.

GUTHRIE TAKES UP DEMANDS

At the opening of the session on Monday Mr. Guthrie presented the Pittsburgh operators' reply to the five points raised last week by the miners of that district, embracing specific demands. He first took up the demands for payments for the removal of slate.

Handling slate, he stated, had always been taken into consideration in fixing the tonnage scale rate. Several years ago, he said, an agreement had been reached in which the maximum thickness of slate which the miner should take care of under the tonnage scale rate was placed at twelve inches and, for thicknesses over that, additional compensation was allowed.

"In consequence," said Mr. Guthrie, "if the miner wants separate pay for handling the slate the wage scale per ton of coal should be reduced. Otherwise the separate payment is nothing but an advance in the wage rate."

Regarding the elimination of the differential wage rates between thick-seam and thin-seam

coal veins, Mr. Guthrie stated that the differences in rates were established to create a more nearly equal earning capacity for the miners in the two types of mines.

DIFFERENTIAL IS JUSTIFIED

"It is perfectly obvious," he said, "that the miner working in the thick coal has an advantage in earning power over the miner who works in the thin vein. We will submit statements showing the earnings of miners in both thick and thin-vein districts which establish the proposition that the present differential is justified, and if disturbed, the wages of the thin-vein miner will fall and as a result the miners will seek all employment in the thick-vein mines. This will finally result in disadvantage and dissatisfaction for the miners and will work unnecessary hardships upon the operator in the thin-vein districts."

In answering the miners' demand that the operators furnish electric cap lamps, free of charge, Mr. Guthrie pointed out that the miner had furnished his own light from the earliest days of the industry just as he has furnished his own pick, shovels, and drills.

CAP LAMP AN AID TO MINER

The electric cap lamp was introduced, Mr. Guthrie said, to add to the mine-worker's safety, convenience, and efficiency, thereby increasing his earning power. Five cents a day is charged for electric cap lamps and Mr. Guthrie pointed out that it would cost the miners more than that to provide the lamps previously used. The demand was characterized as showing another instance on the part of the miner to procure an additional advantage which, in final analysis, has the same effect as a wage increase.

FREE POWDER

Taking up the next demand, for free powder, Mr. Guthrie said that the miner has always furnished his own explosives and that his wage per ton of coal covered this incident in his cost of mining. He characterized the demand as "a subterfuge to increase the wage by withdrawing from it one of the elements of cost which it has always covered."

"If the miner," said Mr. Guthrie, "is to be relieved of part of the work which he is already paid for doing, under the present scale; if he is to be furnished, free of charge, with equipment and supplies which, under this scale, he is paid for furnishing himself, then the scale basic rate should be reduced to cover these items; otherwise, this is granting an increased wage by an indirect method. The miners are seeking a wage increase which is concealed from the public view."

MAURER TELLS OF OHIO CONDITIONS

Coal mining conditions in the state of Ohio were explained from the operators' standpoint by Mr. Maurer, who said that no other state had to meet such severe competition.

"In 1914, working 108 days, Ohio produced 18 million tons of coal; and in 1919, the state produced 47 million tons of coal," said Mr. Maurer, commenting on the tremendous de-

velopment which lay dormant for so many years on account of competitive conditions.

UNDUE BURDEN ON OHIO

Mr. Maurer declared that "an undue burden on the coal production of the State" might, with the return of normal times, put Ohio back where it was in 1914-16 "when Mr. Moore (the miners' representative) told you he was feeding men in Ohio."

Taking up the demand of the miners for a rearrangement of the system of payment for removing slate, Mr. Maurer stated that payment for this work had been included in the mining rate for forty years.

"PUT DISTRICT OUT OF BUSINESS"

"An increase of 10 cents per foot for mining slate would mean an increase of 10 cents a ton on coal, adding \$1,500,000 to the normal cost of coal in Eastern Ohio," said Mr. Maurer, "and this would put the district out of business in all kinds of times, normal, war, or times like we have today."

As to the earning capacity of the miner, Mr. Maurer said no other state, except Utah, could show a higher production rate in five-foot seams of coal than Ohio.

EXTRA PAY FOR THE MINERS

Mr. Maurer went on to tell the commission that miners receive pay for other work than mining the coal, on a tonnage basis. This extra pay, among other things, includes work for brushing slate and for yardage. He introduced a table to show the extra pay received in the Ohio fields. In this table, in consecutive order appear these items, showing the pay received for mining and for extra work for one month:

Miners' check No.	Mining	Extra pay	Total for one month
177	\$178.15	\$6.43	\$184.58
179	123.58	1.82	125.40
181	210.50	20.00	230.50
182	106.97	13.46	120.43
183	202.59	.56	203.15
184	65.48	3.18	68.66
			(1½ month)
185	102.04	9.60	111.64
188	160.56	.55	161.12
189	152.95	38.59	191.54

SHOWS MINERS IDLE

To substantiate the operators' claim that many miners remain idle when the mines are working, Mr. Maurer offered this table, prepared from the records of the Great Lakes Coal Mining Company:

STATEMENT SHOWING NUMBER OF MINERS WORKING ON DAYS MINES WORKED, AND NUMBER OF MINERS IDLE, NOT REPORTING FOR WORK DURING YEARS 1918 AND 1919.

1918	Miners working	Miners idle	Per cent miners idle
January.....	10,890	1,967	
February.....	9,540	1,186	
March.....	10,544	1,186	
April.....	11,775	2,113	
May.....	11,753	2,022	
June.....	12,353	2,243	
August.....	12,533	2,077	
September.....	11,086	1,837	
October.....	11,308	3,269	
November.....	9,496	2,915	
December.....	9,342	2,588	
Total for 1918	133,070	26,169	16.4

1919.		
January.....	5,602	1,206
February.....	1,451	403
March.....	2,790	140
April.....	8,986	1,304
May.....	11,588	2,322
June.....	12,058	1,810
July.....	11,364	2,284
August.....	7,634	1,004
September.....	7,745	1,281
October.....	9,845	1,686
November.....		
December.....	2,608	1,008

Total for 1919.....	\$1,671	14,268	14.8
Grand total.....	214,741	40,437	15.8

WOULD "DOUBLE COAL PRICE"

Mr. Maurer took up the demand for a six-hour day instead of eight hours, by the miners declaring that it would double the price of coal in Ohio.

"Furthermore," he said, "the economic effect of the decision of a commission of this nature, appointed by the Government, would have a far-reaching effect on all the industries of this country, extending out into the farming industry where, today, the problem is how to get enough men under the shorter hours to sow and gather the crops and foodstuffs necessary to our support."

WAGES INCREASED 84 PER CENT

Going into the 14 per cent increase recently granted the miners, and the increase in the cost of living, estimated at 79 per cent by Dr. Garfield, former Fuel Administrator, Mr. Maurer presented figures to show that day labor, which constitutes 40 per cent of the mine labor in Ohio, received \$2.64 a day in 1916 and now receives \$5.70 a day. The machine miner, who gets out 90 per cent of the coal, received 47 cents a ton in 1916 and now gets 81 cents a ton. This is an average increase, he pointed out, for both classes of 84 per cent compared with the estimated cost of living increase of 79 per cent.

PENNA TALKS FOR INDIANA

Mr. Penna, for the Indiana operators, put in a rebuttal to the miners demands as affecting his district.

"In Indiana," said Mr. Penna, answering the demand for payment for slate removal, "slate up to 6 inches in thickness is now included in the mining rate. Slate mining over 6 inches is paid for extra."

It was unnecessary to bring up the slate question before the Commission, declared Mr. Penna, who said that in Indiana, the president of the United Mine Workers, and he himself, as secretary for the Coal Operators Association, had absolute authority to settle any points of dispute relating to it.

ASKS STEWART TO SUBSTANTIATE

Mr. Penna called on Mr. Stewart, president of the Indiana Mine Workers' Union, to furnish evidence to support charges made by him at a previous hearing, when Mr. Stewart claimed that some operators had sold bone coal, mixed with other coal, during the war, contrary to the miners' and operators' contract, and Mr.

Penna demanded the names of any operators who had done this. Later in the day, Mr. Stewart explained that he had not meant to accuse the Indiana operators of being dishonest and that the loading of coal had been done under a "careless system for which the mine managers were responsible." He gave the names of five coal companies who had loaded bone coal. At Mr. Penna's suggestion the operators named will be called before the Commission.

Mr. Penna characterized Mr. Stewart's charge as having been "loosely drawn."

ADVANCE AND THE BONUS

Mr. Penna commented upon the charge made by miners' representatives last week that some operators had failed to apply the 14 per cent wage advance to bonuses paid the miners. He suggested that if Mr. Stewart, instead of bringing up the matter before the commission, had taken it up with him, it would have been settled at once, so far as the Indiana miners were concerned. He was in agreement, he said, with Mr. Stewart on the point that any increase in wages should be figured on the regular scale of prices, plus any bonus that was paid.

Defending the Indiana operators against the charge made by Mr. Stewart last week of violating the laws of the State in not paying the miners weekly, Mr. Penna said that the Indiana operators "are not law violators" and that no law ever had been passed requiring wages to be paid weekly. The law in question, which he characterized as the work of "time-serving politicians," simply allowed the miners to "ask, petition or request or agree to a weekly pay time with their employers" and he pointed out that it is not necessary to have an act of the legislature to allow them to do this.

REPLIES TO FARRINGTON

Mr. Brewster, for the Illinois operators, followed Mr. Penna, questioning the figures furnished by Mr. Farrington, president of the Mine workers of Illinois, which were submitted as indicating the average number of days worked per mine per year. Mr. Brewster stated that the figures did not fairly represent the number of available days of work for a majority of the mines and, consequently, for a majority of the men. He pointed out that in almost every county in the Illinois fields there are several mines that can work but little, if at all, under the stress of competition during spring and summer. Yet the men who work in these mines are not necessarily idle during the slack season, he said, for they may be employed elsewhere during the long periods of regular suspension of mining operations.

SEASONAL DEMANDS

The bituminous coal industry has always been and always will be subject to the fluctuation of the seasonal demand, said Mr. Brewster, and this condition must be accepted by all those who identify themselves with the business whether they be owners, managers, or mine workers.

So far as the differential between machine and pick mining was concerned, the removal of which was asked by the miners, Mr. Brewster pointed out that the matter had been referred to the Illinois State Arbitration Board in 1899.

"In 1910," said Mr. Brewster, "the miners struck for the abrogation of the differential and a compromise was affected only after six-month's time."

MINES WITHOUT MACHINERY

Because of the trouble about differentials, declared Mr. Brewster, a great many Illinois mines were still operated without machinery which, of itself, creates a condition not conducive to the safety and efficiency of the miners.

A differential of 10 cents a ton is inadequate, stated Mr. Brewster, to reimburse the Illinois operators for the cost entailed in the investment of mining machinery, pointing out that the cost of installation of machinery, the wire, pipes, supplies and repair parts necessary for up-keep have increased over 200 per cent and yet no increase had been allowed the operator in the amount available for this upkeep.

PAY FOR HAULING MINERS

Taking up the miners' request that the commission recommend requiring the operators to haul the men from the shaft bottom to the working face, and return, on the miners' pay time, Mr. Brewster stated that where the workings were extended the men were now transported to point near the working face, either by established custom or surreptitiously, in violation of company rules, dictated by motives of safety. If the matter were to be considered by the commission, however, Mr. Brewster asked that it be provided that the miners be required to stay in their working places until leaving time, performing the work, and not rush up to the surface any hour they wished to quit.

MINERS' NEW DEMANDS

The second day of the hearings, January 20, was devoted to the miners, who reiterated the demands previously made and brought forward some new material to substantiate their claims. The miners' points were presented by Mr. Murray for Pennsylvania; Mr. Savage for Ohio, and Mr. Farrington for Illinois.

Elimination of the differential in pay rates between thick and thin seam mining was again asked for by Mr. Murray on the ground that this would give the miners a more equal distribution of working days throughout the year. He asserted that in some mines the miners were working on thin-seam coal at thick-seam rates which cut their earnings very materially.

"An examination of the figures," said Mr. Murray, "will show that miners in the thick-vein districts work many more days per year than the men employed in the thin-vein fields, which have a higher cost of production and consequently more shut-down days."

PAY FOR SLATE REMOVAL

Mr. Murray disputed the operators' claim that payment for the removal of thick slate is

taken care of in the mining wage scales. He declared that the same price per ton is paid for coal mined where the roof is "slick" and no slate has to be removed, as where the 12-inch maximum is required to be taken out. Twenty-five per cent of the miner's time is spent in slate removal, he said, for which no payment is allowed in the Pittsburgh district.

Commenting on the fact that the miners are required to pay the cost of introduction of safety devices, Mr. Murray said that these should be borne by the industry. He offered to produce figures tending to show that the safety devices had resulted in lowering the men's earnings, thus depriving them of the benefits which they might expect would come to them as a result of improvement in mining methods.

SLATE AND MINE CARS

That handling of slate is included in the price paid for mining a ton of coal, as claimed by the operators, was questioned by Mr. Savage, for the Ohio miners, who said that the price paid for mining a ton of coal was based on mining a clean seam. Furthermore, he stated that in Ohio, outside of the Eastern District where there was a "second slate formation" every scale district granted pay to the miners for handling slate, no matter how thick it was. Harmony in Ohio, he insisted, would not appear until the miner received adequate pay for doing this work.

Some of the practical difficulties in handling mine cars were touched upon by Mr. Savage who said that, where mules were used, the cars were sometimes run off the track and the miners required to stop work, unload them, and replace them on the track before they could proceed with their mining. He asked that the driver be made responsible for handling the car.

WANTS UNIFORM SCALE

Mr. Savage injected a local note when he demanded that the operators in the Pomeroy and Jackson fields be required to pay the same scale day wages as was paid in other parts of the state. In adjoining districts in low coal seams the regular Hocking scale, or basic scale, for the competitive field was in force, he said, and in the low coal seam in Northern Ohio the operators paid the basic price for day labor.

"There is no reason," he asserted, "why the operators in the Jackson and Pomeroy fields cannot pay the maximum scale that is maintained in other parts of the state."

DISCUSSES "DOCKING"

Mr. Farrington, who followed Mr. Savage, after saying that it took men who work in the mines sometimes as much as two hours to get out into the air after they have finished their work, hit at the "docking" clause for loading impure or "dirty" coal, which the miners want rescinded and the operators want made stronger.

"I never knew a miners' official," said Mr. Farrington, "who had any desire to protect men who loaded dirty coal wilfully. The mines producing the cleanest quality of coal are going

to get the business, as against the mines where the men load an impure or dirty quality. Because of that condition it is the desire of every official to see that the men load clean coal because it is to our advantage to have clean coal produced and loaded.

"But I have in mind a mine in Illinois where there are fourteen veins of impurities in the coal vein. The men load the cars in artificial light and the company examines the coal in daylight. If they find what they consider a sufficient quantity of impurities to warrant the application of the penalty it is applied and the men have apparently no redress.

"We hope the commission will give careful consideration to the creation of a docking clause which will give the workers a modicum of protection."

ASKED FOR NEW FIGURES

At the close of Tuesday's session, Chairman Robinson asked the operators to furnish figures showing the amount of coal sold since the 14 per cent wage advance went into effect on contracts made early in 1919.

The session Wednesday was brief. Figures on their side of the wage and cost of living questions were promised by John L. Lewis for Tuesday, January 27, to which date the commission took a recess.

OPERATORS FINAL DATA

After the miners have submitted their data the operators, it was decided, would offer their own data in their purpose to show that the miners' wages are adequate and that the operators' profits under the 14 per cent advance have almost entirely disappeared.

SESSION OF JANUARY 27

Upon the resumption of the hearings, before the commission of three, appointed by the President to investigate the bituminous coal industry, Don Rose, an attorney of Pittsburgh, representing the operators of the Freeport district, denounced the demands of the miners for a 60 per cent wage increase along with a 6-hour day and a 5-day week as "unthinkable and un-American."

Mr. Rose told the commission that the operators could not believe that the miners' organization seriously advocated the six-hour day with a five-day week, and he declared that such a proposition meant "industrial chaos for the nation."

"As we view it," said Mr. Rose, "the miner's demand for a six-hour day and a five-day week, coupled with his demand for time and a half for overtime and double time for Sundays and holidays, seeks to achieve two results: first, an indirect increased wage; and second, limitation upon production. Under the Lever law both these propositions are illegal. We believe them to be un-American. We regard them as an attempt to make of the miner a favored class."

Acting-President John L. Lewis of the United Mine Workers, upon the conclusion of Mr. Rose's statement, protested against the characterization of the miners' demands as un-American.

"We do not understand that the Americanism of the miners is on trial," said Mr. Lewis.

At the outset of the hearing Chairman Henry M. Robinson announced that the commission would go into the manner in which the recent 14 per cent wage increase to the miners had been applied.

BITTNER SPEAKS FOR MINERS

During an oral statement at the hearings Tuesday and Wednesday, January 27 and 28 in explanation of the various statistical exhibits submitted for the miners, Van H. Bittner of Pittsburgh first laid stress on the finding by government authorities that the cost of living had increased 85 per cent since 1913, and then declared that the miners had not received wage increases commensurate with the advance in the cost of living. Mr. Bittner submitted an estimated budget for a family of five, which with an added \$140 for explosives and smithing, he said, should amount to \$2,243.94, for a miner and his family per year. Mr. Bittner followed this with summaries covering coal production tonnages, selling prices, profits, net earnings and deductions as to their bearing on the relative amounts paid to the miners for their labor.

REFUTES MINERS' CHARGE

Charges that certain Indiana coal operators were permitting, without docking from the miners' wages, the breaking up of impurities in coal and loading them with coal to be sold as pure, contrary to their agreements, were refuted by Phil H. Penna, secretary of the Indiana Operators' Association, who filed with the commission a number of affidavits from mine owners, superintendents, and room bosses.

In the case of one mine, charged with the practice, Mr. Penna said he had found that its owner was dead, and for that reason the mine had not been operated since the middle of 1918.

New demands of the miners of the Freeport, Pa., district for abolition of the differential between the thick and thin vein mines for pay for removal of "bone" coal, and free supply of powder and electric cap lamps were made by President Philip Murray of the Pennsylvania bituminous miners. Mr. Murray also argued for the basic claims of the miners of the Central Competitive Field a 60 per cent increase in wages, a 6-hour day and 5-day week.

"UN-AMERICAN" SAYS ROSE

In rejoinder, Mr. Don Rose of Pittsburgh, representing the Freeport, Pa., operators, submitted the miners' demands to a searching analysis. He declared that the miners' contentions for abolition of differentials and the supply of materials free to the miners, heretofore incident to his work, were, in fact, indirect wage demands. As to the demands of the miners as a whole, Mr. Rose asserted that if granted, they "would put a price upon the cost of coal that would stagger even the American people," creating of the miner a "favored class." Mr. Rose said the demands were "unthinkable and un-American." To this statement Acting

President John L. Lewis of the United Mine Workers objected, saying that the Americanism of the miners was not on trial.

Frank Farrington, president of the Illinois Mine Workers, submitted a proposed draft of a new agreement for the employment of hoisting engineers in the Illinois mines. Resolutions from a number of Ohio local unions relating to demands were also read into the record of the commission.

HOW APPLIED

Chairman Robinson announced that the first hearings of representatives of both sides in the outlying districts would not be reached until Thursday, February 5. Mr. Robinson also stated that the commission would consider how the recent 14 per cent average wage increase granted the miners, has been applied.

Chairman Robinson's statement as to the 14 per cent advance, made at the outset of the first hearing of the week, which began at 2 p. m., on Tuesday, January 27, was as follows:

"Requests from several districts have been presented to the commission for its determination of questions arising out of the application of the 14 per cent average advance.

"It is fair to assume that the President expected that the 14 per cent average increase would be applied by the operators and miners in a manner to stabilize the industry pending the survey and final award of the commission.

"In making its final award the commission will consider and determine the application of the 14 per cent average wage increase."

ARE COMPLYING

That the 14 per cent increase is being borne by the operators was made clear in a statement issued by Attorney General Palmer from the Department of Justice on January 20, which said:

"It is true that in some sections of the country a larger price is being charged for coal than that fixed by the Fuel Administration. This makes it appear as if the operators had added the 14 per cent increase in wages to the price of coal.

"I have no information that the 14 per cent has been anywhere added. Where the price is greater than the Fuel Administration's price, it is caused by the fact that the operator alleges that the coal was bought on contract before October 31, 1919, which contracted coal was expressly expected from the Government price by an order issued by Dr. Garfield on November 12."

MURRAY REITERATES DEMANDS

Following Chairman Robinson's statement on the 14 per cent advance, President Philip Murray, of District No. 5, United Mine Workers, appeared in behalf of the miners of the Freeport, Pennsylvania, district. Mr. Murray said his statement would be largely a reiteration of what had already been read into the record. He asked for the abolition of the thick-vein differential in the Freeport seam of the Pittsburgh district, claiming that it would bring with it a more satisfactory condition both from the competitive standpoint and from the standpoint

of the man's ability to earn wages in the Freeport thick vein as against the miners of the thin-vein Pittsburgh district. Working conditions in the two districts, he said, were practically identical.

REMOVAL OF BONE COAL

Mr. Murray said that the Freeport miners also requested payment for the removal of bone coal in the thick vein of the Freeport seam at the rate of 10 cents per inch per lineal yard for all wide work over 15 feet and 8 cents per inch per lineal yard for all narrow work 15 feet and under, these prices to apply to all working places. The Freeport miners also asked that powder be furnished them free of charge as well as electric cap lamps, and further contended that car pushing should not be done by the miners but that this should be done by mules or a motor haulage system.

For the operators of the Freeport district, Attorney Rose met the demand for the abolition of the differential, calling attention to the fact that when the miners organized this field their officials recognized at that time that the mining conditions as between the Freeport thick-vein district and the thin-vein district of the Pittsburgh field demanded the existence of the differential established.

NO CHANGE

"There has been no change in conditions since that time which would justify a different conclusion as to the justice and expediency of this differential," said Mr. Rose.

As to compensation demanded by the miners for removal of bone coal, Mr. Rose said that "the handling of this bone coal is and has always been one of the incidental duties of the coal miner in this seam. The doing of this work by the miner has always been one of the elements of labor considered in fixing this wage per ton."

CAP LAMPS AND POWDER

Mr. Rose pointed out that the initial cost and upkeep of the electric cap lamp is borne by the operator. Were the mines to revert to the old system under which the miners furnished their own lights, it would cost them more than the present charge of 4 cents per shift for use of lamps, said Mr. Rose. As to the demand for free powder, Mr. Rose said that the wage fixed per ton covered the cost of permissible explosives to the miner. He took the view that if explosives were furnished free they would be used extravagantly with the result that the quality of the coal would be impaired and safety conditions endangered. He called attention to the section of the agreement requiring miners to work two in a room, and said if they complied with the agreement there always would be two men available for handling empty cars.

INCREASE "UNTHINKABLE"

"This demand is, like all the rest," said Mr. Rose, "a concealed and indirect attempt on the part of the miner to get an increased wage, which the public will not see, to be paid again for work that he is now adequately paid for performing under his wage."

"As to the general demands advocated by Mr. Lewis, our position coincides with that already taken by the operators of the four states. A general advance of 60 per cent is unthinkable. The potential earning power of the workers in this industry is far above the wage commanded by workers in other industries of a kindred character. Those demands, if granted, would place the miner in a favored class by himself, with an earning power far above that of workers in other fields."

"UN-AMERICAN" PROPOSITION

"We cannot believe that the miners' organization seriously advocates a 6-hour day, with a 5-day week. It is an un-American proposition. If it is good for the miner it is good for the man in other walks of life. We believe that he does not hope for a 6-hour day unless there is coupled with it time and a half for over time, in which case he will work his eight or ten hours, as the case may be, and thus convert the grant of the demand into a wage increase."

"As we view it, his demand for a 6-hour day and a 5-day week, coupled with his demand for time and a half for overtime and double time for Sundays and holidays, seeks to achieve two results—first, an indirect increased wage; and, second, limitation upon production. Under the law we believe limitation of production to be illegal. We believe it to be un-American. We regard these demands as an attempt to make of the miner a favored class."

LEWIS PROTESTS

The allusion to the miners' demands as "un-American" was objected to by Acting President Lewis of the miners, who said "I do not understand that the Americanism of the mine workers is on trial before this tribunal. We yield not to the operators, nor to any other individuals in our allegiance to the American Government, the American flag, American institutions, and American traditions. We do not propose to be tried as to our allegiance to those principles and ideals, at the whim of every individual who may disagree with our arguments and our claims."

THE MINERS' DATA

A mass of statistical evidence intended to support the miners' claims for the wage increase, shorter hours, and other demands, was next introduced by Mr. Bittner, representing the National organization of mine workers.

After presenting figures from several sources to support the statement that the cost of living had increased 85 per cent, rather than the 79.8 as figured by Dr. Garfield, the former Fuel Administrator, in making his recent wage adjustment, resulting in the 14 per cent increase to the miners, Mr. Bittner demanded a wage "sufficient to maintain the worker on a level of health and decency."

The average earnings of miners from 1902 to 1918 were shown on large charts to substantiate the claim made by Mr. Bittner that the miners "were not securing earnings adequate to mere animal existence" and that it was necessary to

supplement the earnings of the father by taking in boarders or putting the children to work.

NO INTERMEDIATE ADVANCES

The rising cost of living between periods of wage adjustments, Mr. Bittner said, has resulted in great hardship to the miner in that, in these intermediate periods, he has been unable to obtain any increase.

The 60 per cent wage advance demanded by the miner was figured, Mr. Bittner stated, so as to cover the difference between the wage scale and the increase in the cost of living in the period between November, 1917, and December, 1919, when the miners had no increases but were forced to meet a constantly rising living cost. If the losses then sustained were spread out over the next 24 months and raises granted in addition, to bring the scale up to present living requirements the increase would amount to 60 per cent, he said, when figured on a tonnage basis.

WAGES IN OTHER INDUSTRIES

Increases in wages had been less in the mining industry than in other large industries, stated Mr. Bittner. He presented figures tending to show that the wages in the steel industry had advanced about 125 per cent, in railroads about 75 per cent, farm labor about 85 per cent, boot and shoe trade about 75 per cent, while in the coal industry 90 per cent of the workers who work underground had received only a 50 per cent advance over the wages of 1914.

QUOTES HOOVER ON SIX-HOUR SHIFT

Declaring that the miners' demand for a six-hour day and five-day week had been misconstrued by the public as an attempt to shorten the working period, Mr. Bittner said that it was really a request for the opportunity for more work. He quoted Herbert Hoover, former Food Administrator, in stressing this point by saying: "When Hoover was manager of the Durham mines in Northumberland, England, he said he would not work men over a six-hour shift, if he had the opportunity."

On this point, operators have taken the position that they would be willing to work the miners in 6-hour shifts, if, as in England, the miners were operated 24 hours a day. In the American mines the working days are much shorter.

MINE HAZARDS AND CONTINUITY OF EMPLOYMENT

Life insurance statistics were brought in by Mr. Bittner in an effort to show that the mining industry is the second most hazardous of all trades, powder-making being the first.

Mr. Bittner dwelt upon regularity and continuity of employment as constituting "one of the miner's rights." He presented figures tending to show the part played by strikes, car shortage, mine disability through accident and lack of market for coal, incident to seasonal demands as effecting the miner's work.

"The miner is the victim, rather than the cause, of the employment situation in the industry," said Mr. Bittner, "and labor is not respon-

sible for the failure of the mines to operate at full capacity. We must conclude that bituminous coal mining is a part-time industry."

LACK OF COAL CARS.

Lack of coal cars is the main cause for the laying off of work at the mines, declared Mr. Bittner. On this point the miners and operators are in agreement.

In continuing the presentation of the miners' figures on the second day of the hearing, Wednesday, January 28, Mr. Bittner went into the details of the "family" budget prepared by Prof. W. F. Ogburn of Columbia University. This budget was made up of the following items:

Food, \$768.60; additional food for man engaged in heavy work, \$32.78; clothing for man, wife, and three children, \$455.26; rent, \$216.00; fuel and light, \$70.00; miscellaneous, \$576.30. To this was added, in the special case of the miner, \$140 for explosives and blacksmithing, while a deduction of \$15.00 was made for savings on gardens. This made a yearly total of \$2,243.94, figured as a minimum for maintaining a family of five. This sum was not considered by Mr. Bittner to be "extravagant" for a miner.

PRODUCTION VALUE OF EMPLOYEES.

The production value of mine employees was next taken up. Mr. Bittner pointed out that in 1913 with 571,882 employees, coal worth \$565,234,000 was produced, or an average of \$990 worth per employee. In 1918, with 603,305 miners, coal worth \$1,491,000,000 was dug, or an average of \$2,420 per man. The value per ton in 1913 was \$1.18 and in 1918 it was \$2.57.

"Since 1909," said Mr. Bittner, "the tonnage has increased a little over 50 per cent, while the total value has increased 270 per cent."

If the wage rates had kept pace with the value of the product since the year 1916 as they had up to 1916, Mr. Bittner said, the miner would have received in 1918, \$1.41 per ton, or 61 per cent over the amount he did receive.

MINERS' WORK IN 1914.

Taking up the operators' claim that if the coal miners would work regularly they would make earnings adequate for present living conditions, he quoted from a pamphlet put out, he said, by the operators of Illinois and Indiana in 1914, in which it was stated that 175 days per year was the highest number the miner could get out of the industry in those States.

AS TO PROFITS.

Financial statements relative to the profits of various coal companies were then put into the record by Mr. Bittner in an attempt to show that the profits had been extravagant. With reference to the Pittsburgh Coal Company, the largest in the field, Mr. Bittner said that in 1914 its net income, available for dividends was \$1,371,059, or 2.01 per cent on a capital of \$64,000,000, while in 1917, its net income was \$14,076,852, or 20.06 per cent on its capitalization.

"This was equivalent to \$660 on each employee," said Mr. Bittner.

The Carnegie Coal Company made \$196,809 in 1913 and \$1,058,765 in 1917, according to statements referred to by the miners' representative.

FARRINGTON'S NEW DEMANDS.

After the various charts and exhibits had been filed with the commission, Mr. Farrington of Illinois, presented a statement of new demands asking for monthly wages for engineers of from \$275 to \$250, an increase in the number of engineers employed, two days off each month per man, and the retention of the engineers during the periods of suspension of mining. While admitting that this class of labor was already paid more in Illinois than in any other State, he said there was no class of labor in the mining industry where the same degree of intelligence was required or where the men worked under such a nervous strain.

Mr. Farrington also asked for the elimination of the differential between machine and hand yardage and deadwork, which is now in effect, stating that there was as much as fifty cents a yard difference, which he held was not warranted.

THE OPERATORS' DATA.

After Mr. Bittner's presentation of the miners' statistical data, Chairman Robinson asked Mr. Crews, for the operators, what was the position of the operators as to introducing their data. Mr. Crews replied that for several weeks a large staff of persons in Washington, not less than twenty-five, had been engaged in the compilation of data which the operators desired to introduce.

"The data, while it covers some minor fields," said Mr. Crews, "relates particularly to the actual earnings of miners, as disclosed by the actual payroll figures of a sufficient number of mines throughout the Central Competitive Field to portray fairly those facts which we regard as essential, and lying at the very base of the commission's inquiry."

"We believe that we can be ready with the work to proceed to the presentation of the data on Monday, February 2nd, and that the result of the adjournment for a few days will be to reduce the time that will be necessary to present the case in a concrete form."

SUMMING UP.

Chairman Robinson informed the miners and the operators that it was the belief of the commission that both sides would be as well served if the data submitted by the operators and the mine workers were left with the Commission without further discussion by one side of the figures presented by the other, thus avoiding confusion of figures and saving time as well.

Chairman Robinson made it clear, however, that each side would be allotted two or three hours for the final summing up of their respective arguments when the operators had concluded the presentation of their facts and figures from the basic mining records.

PENNA DENIES STEWART'S CHARGE.

Phil H. Penna, secretary of the Indiana Operators Association, was recognized by Chairman Robinson to make reply to charges by Mr. Stewart of the Indiana miners, that certain operators of Indiana had permitted the miners to load impurities in their coal without docking from the miners' wages, and had then sold the coal as pure. Mr. Penna said that he had made as thorough an investigation as possible on a trip to Indiana last week and that he was prepared to deny the charges in toto.

Mr. Penna submitted a number of affidavits from owners, superintendents, and room bosses of the mines in question denying that the men had been permitted to load impurities in the coal. In the case of one mine, named among those charged with the practice, Mr. Penna said that it had not been operated since the middle of 1918 due to the death of its owner.

NEED OF PERMISSIBLE EXPLOSIVES IN METAL MINES

It is reported that the fire in the Homestake Mine which occurred last September, and which resulted in the necessity of flooding the mine to extinguish, was caused by a single blast which ignited broken timber in an old filled stope that had been broken into by a new stope. The broken ore, waste, and timber had arched and hung up about 30 feet above the grizzly, and in blasting this down the fire started.

In the past there have been many such fires. Very serious ones have occurred in the deep Lake Superior mines. Manifestly the remedy is to use permissible explosives only, as they would be very unlikely to cause ignition.

The bureau has repeatedly advocated their use for this purpose. Because they were primarily planned for coal-mining explosives, metal miners have not fully appreciated their value in the prevention of fires in driving through old ground. While it is a little more troublesome to keep two kinds of explosives on hand, yet the resulting fires have been so serious, leading to loss of life in a number of cases, that it is a relatively small matter to take this important precaution.—U. S. Bureau of Mines, Reports of Investigations.

ALSATIAN POTASH SUPPLY NEEDED FOR DOMESTIC USE

In Alsace it is reported that on the first of July there were from 15,000 to 20,000 tons of potash salts, but that this was largely needed for domestic use. It has been estimated by Mr. H. S. Gale that there may be available during the next year—that is, up to the middle of 1920—50,000 tons of pure potash from Alsace and an equal quantity from Germany, which together would not be nearly enough to satisfy our pre-war requirements. It is reported that the accumulated stocks of Nebraska potash have all been sold.—Bureau of Mines' Minerals Investigations.

INDUSTRIAL RELATIONS AND WELFARE

HEARD AT THE HEARING

The Committee on Mines and Mining of the House began hearings on the War Minerals Relief situation, January 10. This is a continuation of the hearings which were held in October, 1919, and at which the Mining Congress presented the situation of the claimants to the committee.

On this groundwork of complaint of the present situation, the committee has gone into specific cases. The Chestatec Pyrites Company appeared through George L. Pratt, and Edgar Watkins, their former attorney. They were also ably represented before the commission by Schley Howard. Their evidence alone took up several days, and they were followed by E. A. Dickey for the Pacific Coast Chrome Producers Association.

The hearings have now continued for approximately three weeks, and many other claimants, representatives of various districts, are waiting to be heard.

The Mining Congress has mailed to war minerals claimants a copy of the brief it proposes to present to the committee, summarizing the situation and the needed relief. The attitude of the committee is essentially fair in that it wants to arrive at the true causes for the failure of the present law to give the relief that was originally intended.

The entire War Minerals Relief Commission has appeared at various times in the support of their contentions as to the proper administration of this law. Points at issue between the various claimants have led to spirited arguments on occasion. This is as interesting a committee session as is often held, and a principle as vital to the interests affected is being considered for settlement as often comes before a committee of Congress.

Mr. Alexander T. Vogelsang, First Assistant Secretary of the Interior, in an address before the National Rivers and Harbors Congress, in discussing the water-power legislation, said:

"Seventy per cent of the water power is west of the Mississippi and over 70 per cent of stationary prime-movers horse-power is east of that river. The east is rapidly consuming the expendable resources of power, and if she continues to sleep upon her water-power possibilities she may soon see the transfer of her great industries to the ever-alert west.

"About 55 per cent of the world's coal is in the United States. We must some day become great as an exporting nation. In the pre-war period we sold only 4,500,000 tons of our annual production of 700,000,000. England exported 77,000,000 tons, but she can no longer maintain this figure of exportation and is even now asking us for coal. We must also largely supply the South American market. It is easily imaginable that by clearing the water-ways to navigation, we will release for export millions of tons of coal from the

central fields and thus stabilize labor and general mining conditions, giving to the mine worker what he today craves most, more days of work per year."

Secretary Lane in a recent work, "The Strategy of Minerals," said:

"There is an international right to those things which are essential to life. We are to grow nationally by our generosity internationally."

Senator Norris, in discussing the Water Power Bill, said:

"When it comes to denying any special privilege to labor, to those who toil, we find Senators aplenty upon the floor of the Senate decrying against special privilege. When the anti-strike clause in the railroad bill was before the Senate, there was no dearth of Senators declaiming eloquently that labor must have no special privilege or rights; but where are they today, when here it is proposed to grant a special privilege to wealth?"

Senator Smoot, in discussing the Water Power Bill, said:

"I desire to call attention to the fact that when the question of the right of the Government to control and regulate the production of coal and other minerals developed in public lands was under consideration the statement was made by every official in the United States Government that the Government had no interest whatever in the control or management of those natural resources, other than to prevent waste and would charge only enough therefrom to pay the administrative cost. Now the theory is that the Government should charge all they possibly can, the result being the passing on to the consumer of whatever charges may be imposed over and above the actual cost of administration."

Senator Harding, in an address before the Ohio Society in New York City, said:

"There is a sane normalcy due under the new conditions, to be reached in deliberation and understanding. All men must understand and join in reaching it. Certain fundamentals are unchangeable and everlasting. Life without toil never was and never can be. There can be no excellence without great labor. Lowered cost of living and increased cost of production are an economic fraud. Capital makes possible while labor produces, and neither ever achieved without the other, and both of them together never wrought a success without genius and management. No one of them, through the power of great wealth, the force of knowledge, or the might of great numbers, is above the law, and no one of them shall dominate a free people.

"There can be no liberty without security and there can be no security without the supremacy of law."

Senator Underwood, in a discussion of the Cummins Railroad Bill, said:

"The Government is organized for the purpose of protecting the great mass of the people from the arbitrary act of any one class.

"When labor or the man at the bottom ceases to battle upward, your nation is dead. When you destroy the right of battle by which a man may fight his way to the top you have a dead nation, but when any one class gets so strong that they threaten the life of the nation, then your government must function or cease to exist as a government.

"Since the war began, the cost of running the railroads of America has been \$1,835,000,000 more than it was before the war started. Railroad labor has absorbed the entire \$1,835,000,000 of the increased cost in transportation.

"Now labor is asking another billion dollars. From whom? Capital? Capital can't pay it. They are asking it from the public. In the debate in the Senate on this bill it was asserted that when you increase freight rates \$1.00 you increase the cost to the consumer \$5.00. I do not believe this statement, but it certainly does increase the cost of commodities. The manufacturer, the jobber, the wholesaler, and the retailer, all add the freight cost to the cost of the raw material and then multiply their profit into it, so I think that it is safe to say that, for every dollar of increased freight rates, you put a charge of \$2.00 on the pocketbooks of the American people when they consume it. As I say, some people asserted it was five times as much, but I think that is exaggerated, though if it is twice as much the American public has paid in increased cost of labor on the railroads not \$1,835,000,000 but \$3,670,000,000, and if you put another billion dollars on that for labor that they are now demanding, that is two billion dollars more, so that the ultimate consumer would eventually pay five billion dollars since the war began as the price of increased labor on the railroads."

Otto H. Hahn, speaking before the Association of Credit Men, protested against the so-called "excess" profits tax and stated that this tax had been so complex in its result that reasonable assurance of its repeal or modification may be expected.

Among minor measures, Mr. Hahn suggested a small tax on checks, and a tax of 1 per cent on every single purchase exceeding \$2.00. Mr. Hahn believes that such a measure would be productive of vast revenue, the tax to be paid by the purchaser and not be included in the selling price but be specifically added as a separate item.

Mr. Hahn stated that it had been calculated that a tax of this nature would produce from two to four billions annually, according to whether imposed on all commodity transactions or only on retail sales to ultimate purchaser.

Mr. Hahn stated that we have had two years' test of taxation based principally upon taxing capital and business at rates without parallel anywhere. The result is writ large in high cost of living, industrial and economic dislocation and social discontent.

Mr. Samuel Gompers, in a letter to Senator Charles S. Thomas of Colorado, takes issue with the Senator in regard to his recent statements on the floor of the Senate concerning the control of food products. Mr. Gompers says:

"It may have been the law for centuries, but so far as the American workman is concerned he never received the benefits of the law and, therefore sought the enactment of the Clayton law, which merely provides that what one man may do lawfully should not be held unlawful when done by two or more men. What special privilege is contained in that principle?

"The Supreme Court read into the Anti-trust law the reasonableness of combinations of big business. No such interpretation was given in the activities of the people in their endeavor to secure relief from injustice and improvement in the conditions and standards of life and work.

"Is it not legitimate for the miners to seek sufficient wages to support themselves and their dependents? Have they not the right to ask for higher wages and to regulate the hours of employment, particularly when it is known and shown that the mine owners have profited far beyond the wildest suggestion of their profiteering careers. Should 400,000 mendic and strive to live on a small pittance when the mine owners have complete freedom in making prices for the product turned out by the miners?"

Senator Thomas, in his reply to Mr. Gompers' letter, made the following statements:

"I am, of course, familiar with the statements of Secretaries Baker and Daniels, which, broadly speaking, are correct, but their failure to note many delays and interruptions in the course of production with which they were familiar condones without removing them. They know from experience that Mr. O'Connell's advice to 'strike' for dollars and to 'get into their minds the beautiful doctrine of more to 'place officers in position to go out and demand and then back them up' was literally and continuously observed by many wage-earners in many sections at the critical moment in the conflict.

"Intelligent men like yourself and Warren Stone know that increased wages chase increased cost of living but never overtake it, and that nothing but increasing production and thrift ever can, while strikes of national magnitude affecting basic industries immeasurably aggravate the end it is ostensibly designed to cure.

"Operators and employees seem unable to perceive that their interests and well-being are mutual; that class consciousness, which is but another name for class animosity, should not bar the way of a give-and-take agreement. All the arguments in the world cannot overcome my statement, that the strike, and for that matter all strikes of nation-wide character, involves a contention that the strikers must have their way regardless of consequences to the rest of the people.

"My statement that had your proposed amendment to the Lever bill been accepted it would not have affected the power and duty of the administration to overcome the coal emergency was no

advocacy either of 'breaking any law,' nor denouncing the miners for 'breaking a law not in existence.' I advocate the breaking of no law. Neither do I announce in advance of proposed legislation that I will disregard it if enacted. I believe with General Grant that the best way to be rid of a bad law is to enforce it.

"I have had many a hard struggle with adversity in my day, and I can say with truth that advancement has come by dint of hard work, earnest effort, observance of law, and respect for the right of others. What the world needs is tolerance, sympathy, cooperation, and mutual understanding. Each and all of us are linked and dependent upon each other. We must progress together if we progress at all."

Mr. Frank I. Cobb, editor of the *New York World*, in a recent address made some interesting statements concerning the hampering of the press. Among other things Mr. Cobb said:

"Confronted by the inexorable necessities of war, the Government conscripted public opinion as they conscripted men and money and materials.

"Having conscripted it, they dealt with it as they dealt with other raw recruits. They mobilized it. They put it in charge of drill sergeants. They goose-stepped it. They taught it to stand at attention and salute.

"The reason none of us can get at the basic truth is very simple. The coal operators meet in secret, and through their publicity agent they give out a statement of their side of the case. The leaders of the miners meet in secret, and they give out a statement of their side of the case. Either statement by itself is plausible and believable. The two of them, taken together, are wholly irreconcilable and simply add to the sum total of human ignorance.

"What the United States needs more than anything else today is the restoration of the free play of public opinion. That requires, first, the reestablishment of the freedom of discussion, for without freedom of discussion there is no public opinion that deserves the name."

In discussing the income taxes of the coal corporations, **Senator Thomas** said:

"The revenue laws of the United States provide that these returns shall not be disclosed to the public, but gives the President authority, under certain conditions, in his discretion, to disclose their contents.

"The Resolution S-247, now before the Senate, proposes to instruct a government official to disregard the law which he is sworn to support and to disclose to the Senate information which under that law he cannot disclose except as the President shall direct."

Senator Frelinghuysen, in discussing the income taxes of coal corporations, said:

"The committee intends to procure, from the operators themselves, from their books, the profits that they are making. The committee also intends to procure information regarding the wages that are now being paid. I have no sympathy with any coal operator who is making

an unfair profit, but I seriously object to the effort that is now being made to raise the miners' wages 14 per cent and give publicity to the fact that that 14 per cent will be taken out of the operators, when it will not. When that 14 per cent is to be imposed on the consumer, increasing the expense to the public service corporations in my state, \$500,000 in the cost of their coal and indirectly increasing the cost to the consumer, it is time to call a halt."

Senator Dial, during the discussion of the Americanization Bill, made the following statement:

"When the managers of one-twelfth of the taxable property of this country, one class of property that ought to be a prosperous class, admit that they cannot operate at a profit on the present basis, and when they admit that they cannot pay taxes, and when they fall down by the roadside and ask for help, does it not warn us that other enterprises will soon be in the same condition? If the railroads fall down, perhaps the next thing the factories will say that they cannot exist under the present high-priced labor, high taxes, high-priced materials, and everything of that sort. I would no more undertake today to induce my friends to start a new enterprise, on account of the uncertainties of taxation, and the great unrest in this country, and the turmoil that now exists, than I would undertake to jump out of the window of a seven-story building.

"We want to do something in this country to encourage investment, to encourage industry, and to encourage enterprise. We ought to do nothing to increase taxes in this country, but everything to encourage industry and more production."

Congressman MacGregor inserted in the Congressional Record some interesting facts concerning the war:

"The total costs of the war to all nations was about \$186,000,000,000.

"The expenditures of the United States were about \$22,000,000,000.

"During the first three months our expenditures were at the rate of \$2,000,000 per day, and during the next year they averaged more than \$22,000,000 per day, and for the final ten months the daily average was over \$44,000,000 per day.

"The number of men serving in the armed forces of the United States during the war was 4,800,000.

"In the battle of St. Mihiel, 550,000 Americans were engaged.

"The American losses of the war were 50,000 killed and 236,000 wounded.

"Five out of every six men sent to hospitals on account of wounds were cured and returned to duty."

Senator Phipps, in discussing the Americanization Bill, called attention to the fact that:

"A captain in command of an infantry company informed me that three months before sailing his troop included men who spoke

fifteen different languages, that he was compelled to employ eight interpreters among them, and even with this assistance was unable to make his orders understood until these foreign-speaking people had acquired a small vocabulary of English."

He also stated that:

"In one coal-mining strike center there were twenty-seven foreign language newspapers, and in the steel strike district fifty-four foreign language newspapers were being circulated among our foreign-speaking aliens."

"If our country is to continue to progress at the highest possible rate of development, it can only do so through the unity of purpose of a homogeneous people. To attain this end Americans must speak the same language."

Senator Kenyon, in discussing the Americanization Bill, made the statement that:

"In the iron and steel industries of this country about 58 per cent of the employees are foreign born; in the meat-packing industry 61 per cent are foreign born; in coal mining 62 per cent; in the woolen-goods industry 62 per cent; in cotton goods 69 per cent; in clothing 72 per cent; in oil refining 67 per cent; in sugar refining 85 per cent. We have placed the very heart of American industry in the hands of men who are born in other lands, a small percentage of whom are naturalized and a large percentage of whom are illiterate, subject to insidious propaganda, which we are not organized to combat."

Senator Kenyon, in quoting from the *Director of the United States Bureau of Mines*, pointed out that:

"Had the percentage of accidents among the foreign born last year been reduced, as among the native born, 930 lives would have been saved, more than 700 serious accidents averted, and an economic loss of over \$4,000,000 in the mines alone would have been avoided."

"There are in this country five and a half million illiterates. There were 3,089,723 non-English speaking persons who could read and write some other language, making a total of illiterates and non-English speaking people of 8,592,074 out of our population."

"Out of the first million and a half of draftees in the Army, when a simple test was made as to whether they could read an order in English or write a letter home, there were 385,000 who could not do it. One out of every four of those boys could not read a common order in English or write a letter home."

"I think it is fundamental that the greatest enemy of democracy is ignorance, and our best work for democracy is to try to get rid of illiteracy and ignorance."

The Americanization Bill, which is now before Congress, carries an annual appropriation of \$12,500,000 for the education of illiterate aliens. The bill is being fought on the ground of expenditure and by the American Federation of Labor.

Senator Owen, in discussing the International Financial Conference, gave as the reasons why

the American dollar has lost its purchasing power, the following:

"First, due to a great world shortage of commodities arising from the destruction incident to the war, the stoppage of the processes of production and distribution of goods during the war, and the extraordinary demand from Europe for the products of this country; second, great gold imports in exchange for goods, about \$1,100,000,000; third, the expansion of credits in the United States."

Senator Chamberlain, in discussing the Water Power Bill, said:

"Less than 3 per cent of the coal of the United States is contained in the Pacific coast states, yet these states contain 44,000,000 horse-power, or 70 per cent of the total water-power resources of the nation, out of which only 2.8 per cent has been developed."

"The total land-surface area of the eleven public-land main states of the west is 755,915,560 acres, out of which 471,033,227 acres is in public ownership—that is, the public domain comprises 62 per cent of the total area of the United States."

"It is stated that enough hydroelectric energy is running to waste in the United States to equal the daily labor of 1,800,000,000 men."

"Our total coal exports in 1900 were a negligible quantity, but by 1913 they had jumped to 20,000,000 tons and last year they had climbed to 26,000,000 tons."

Senator Curtis, in calling attention to the work of the special session, said:

"In addition to the great supply bills, of which there were seven, the session found time to take up and dispose of the constitutional amendment providing for woman suffrage; the enforcing of national prohibition (this measure was vetoed by the President and was re-passed over his veto); the day-light saving act was repealed and the act vetoed by the President and re-passed over his veto. The bill to restore to the Interstate Commerce Commission its pre-war powers of rate-fixing was passed but was vetoed by the President; a measure was enacted amending and strengthening the Lever food and fuel control law; and an appropriation of \$750,000,000 was made for the Railroad Administration. A resolution was adopted to protect the dye industry; a bill was passed to regulate the entry of aliens into the United States; the Alaskan Railroad completion was provided for; a bill was passed providing for vocational rehabilitation and the return to civil employment of disabled persons discharged from military service in the United States. These were only a few of the larger measures which received attention in addition to the Sundry Civil Act."

Senator Lodge had inserted in the *Congressional Record* a letter from *Theodore Roosevelt* in regard to the sedition measure which is again before Congress. Among other things *Mr. Roosevelt* said:

"Free speech, exercised both individually and through a free press, is a necessity in any country

where the people are themselves free. Our government is the servant of the people, whereas in Germany it is the master of the people. This is because the American people are free and the German people are not free. The President is merely the most important among a large number of public servants. He should be supported or opposed exactly to the degree which is warranted by his good conduct or bad conduct, his efficiency or inefficiency, in rendering loyal, able, and disinterested service to the nation as a whole. Therefore it is absolutely necessary that there should be full liberty to tell the truth about his acts, and this means that it is exactly as necessary to blame him when he does wrong as to praise him when he does right. Any other attitude in an American citizen is both base and servile. To announce that there must be no criticism of the President, or that we are to stand by the President, right or wrong, is not only unpatriotic and servile, but is morally treasonable to the American public. Nothing but the truth should be spoken about him or anyone else. But it is even more important to tell the truth, pleasant or unpleasant, about him than about anyone else."

Coal Age, in its issue of January 25, carries an interesting article upon coal exports in 1919, by **Dr. Henry Mace Payne**, showing that during 1919 there were exported from this country 19,662,619 tons of bituminous coal in the following proportions:

	Per cent
Canada	59.9
Italy	9.4
Cuba	5.0
Brazil	3.6
Argentina	2.7
West Indies	1.4
Uruguay	1.0
Mexico	0.5
Chile	0.5
Panama	0.3
Other countries	15.7

Dr. Payne points out that in order to bring about the best possible conditions for the exportation of coal, the Coal Export Committee of the American Mining Congress, of which committee he is chairman, has developed a plan which anticipates providing the necessary machinery for both buyer and seller, in order that collective buying, as already in vogue, may be met by collective selling, and at the same time offer the widest latitude to the individual operator, wholesaler or exporter.

According to estimates prepared by the Bureau of Mines, the annual requirements which we may anticipate for foreign trade will be 31,000,000 tons, of which 9,000,000 tons will go to Europe. There is an available world market for 90,000,000 tons of American coal per year, if this amount can be mined and exported.

Dr. Payne insists that hearty cooperation by all concerned during the coming year will create a permanent market for recognized American coals at a fair price throughout the world,

and will do much toward satisfying the demands of labor.

The **Pittsburgh Leader** in its issue of January 6 in editorially discussing the miner's strike:

"One point is sure—the miners in their strike had the greatest opportunity to test out the strength of liberal opinion and become its leader in the United States, as a matter of principle. It is just as certain that the chance was thrown away—and not by the miners themselves. The opportunity may never come again. If it does it will scarcely be within the active days of the men who make up the forces of the organization today. The miners cannot be blamed for half-fearing they did not get all that was coming to them at any stage of the strike or settlement."

The **Commercial**, New York City, has the following essay regarding labor contracts:

"A contract is an agreement between two parties to do certain things. Its terms cannot be modified by one party without the consent of the other. If one party fails to keep its terms the other party may look to him for the resultant damages. That is the law in regard to contracts. It is well understood by intelligent persons everywhere. About the only ones who do not regard a contract as sacred are the members of labor unions—that is, some labor unions, for it may be said that a number of them do regard their given word as of some value.

"With the United Mine Workers, however, a contract is merely a scrap of paper. They secured their advance of fourteen per cent through force and in direct violation of their contract. With them it was a one-sided document. If the mine-owners had attempted to abrogate it they would have rushed into the courts to have prevented it and would undoubtedly have made use of the hated injunction to force its recognition. When the tables were turned on them they had much to say about 'government by injunction.'

"Now comes a plea by the operators of the coal mines for radical legislation to have the labor unions live up to their contracts. Experience has shown it to be very necessary. Most contracts are enforceable because of the responsibility of the parties. It is hoped that a plan may be devised by which the unions may be made responsible. It is possible, as was shown in the famous Darbury hatters' case, in which every individual member of the union at the time the agreement was entered into was made a defendant, and ultimately, judgment secured.

"If members of a labor union can be made to understand that each of them is individually responsible for the proper performance of a contract, they will not regard their end of the bargain quite so lightly as heretofore."

In the January 22 issue of **Coal Age** there appeared the following:

"Unhappy are the boosters. Most of us have sat under banquet orators and heard them tell how coal was the master, coal was the king, that

the United States could not do without fuel. We have cheered them to the echo, for we delight to be important. Now we know that our sorrows all are bound up with that importance. Like the hard-working drab old maid of the family we have been so egregiously important that we are now held to a sterner course of action than is demanded of our more frivolous sisters.

"In the past week a correspondent wrote **Coal Age** that the industry had gained by the strike, for everyone now recognized what coal meant to the nation. Alas! it is an irony of our importance that we are made to serve. The public relies on us. It cannot spend the time to inquire into other and less needful industries, to better and control them, to condemn and to berate them, but us it *must* find time to coerce.

"The railroads were tied to the plow because they were found useful and serviceable. Across their broad backs were laid the whips of regulation. Not because they watered their stocks were they punished and destroyed. Many luxury industries made larger profits and paid bigger dividends, and they escaped even investigation. But they were not important. If only the coal industry were the least necessary a malingering in the field of production, something we could do as well without, there would not be so many laws written for our admonishment, so many boards created for our control. May the public forget the importance of the public utilities and give them the freedom they accord so readily to other industries—that freedom that has made the non-essential industries expand so luxuriantly and develop so astoundingly."

Establishment of a definite government policy concerning the real relationship between public responsibility and business is a fundamental requisite in meeting demands of peace, **Senator Edge**, of New Jersey, told the *Rubber Association of America* at its annual dinner.

Citing the six and a half billion dollar deficit during government management of the country's railways, he declared the Government has shown "a total incapacity to conduct its own business," mainly because of the absence of what he described as a common sense budget system.

Establishment of such a system, with a budget commission of experts, accountants, actuaries and others free from politics and political influence, was recommended as a means of preventing duplication and waste and evading of responsibility of authority, he said. The Government's function is not to run business but to cooperate and help it, he asserted.

He advocated operation of the American merchant marine, comprising 1,300 ships, by private interests, "whose initiative, energy, business acumen and non-necessity of considering political expediency will, in reality, develop

the American merchant marine on which we build such high hopes."

Placing of an embargo on exports for the purpose of lowering prices of commodities at home would be inexpedient, he said. He declared this country could not exist, far less profit, by doing business exclusively with itself. The merchant marine, he intimated, would be useless should an embargo be placed on exportation of products of American factories and farms.

He said he was opposed to further extension of government credit, although he said he believed it is the Government's duty to prepare the vehicle with which America can do business abroad.

Use of Permissibles in Coal Mining

Progress is being made in introducing permissibles in the coal mines of the United States. For instance, in Alabama the production the past year was 19,500,000 tons, of which 33 per cent was machine mined and 67 per cent mined off the solid. In the production of this tonnage 4,000,000 pounds of permissibles were used, representing 71 per cent of the total of explosives required. The other 29 per cent was blasted down with 260,000 kegs of black powder. Alabama ranked fourth in the U. S. in the use of permissible powders.

The permissibles mainly used are of the ammonia nitrate class, of the stronger and more shattering grades. An effort is being made to induce the miners to substitute slower acting, lumping powders. New powders especially designed to produce lump coal are being introduced.

The new slow acting permissibles, designed to produce a heaving, spreading action, but as little shattering as possible, must be tamped with about the same care as black blasting powder. The miner is loath to realize this. He is accustomed to use dynamite with little or no tamping (even though he knows it is by no means the most efficient or economical practice). He insists on using the new permissible in the same way. The result is that the shot usually fails to break the burden and the powder is condemned as no good. As a matter of fact, it is only the method that is at fault.

The amount of permissibles needed per ton of coal produced depends on the efficiency of the miner, the kind of coal, thickness of seam, the suitability of the brand of powder selected. Under efficiency comes the proper drilling and locating of bore holes and tightly and fully tamping the charges.

Until the miner has become expert in the handling of permissibles, it is only fair that the operator should share with him losses due to increased slack; increase in cost of production etc. Employer and employee would both profit in the long run by such an arrangement; the operator by a higher percentage of lump coal and decreased assessments under the liability laws; the miner by greater safety effecting not only himself but those who work with him.

TRANSPORTATION

Under this heading THE MINING CONGRESS JOURNAL will hereafter carry a concise review of various orders, opinions and reports affecting freight rates throughout the country issued by the Interstate Commerce Commission and the Railroad Administration or any organization that may be made by law to succeed in any way to the functions of these two departments. The purpose is to get before our members the principal government mandates which affect our commodities, with a view to eliciting inquiries. It is not practicable to include much detail, but we are so equipped that we can give, upon inquiry, a full and complete analysis of any of the traffic problems which are brought to our attention. We hope that this chapter will be of interest and that you will advise us of your problems in order that we may give to each one the personal and complete attention which it cannot have in a review of this character.

Decisions of the Interstate Commerce Commission

Railway Mail Pay.—In an elaborate opinion the commission has approved the space-basis system to govern the transportation of the mails of the country by railroad, and has required extension to all mail routes. This decision is a distinct victory both for the Railroad Administration and the corporations themselves, because it will mean the payment by the Postmaster General of a large amount of money for the years 1917 and 1918, as well as the future. No accurate estimate of the amount can as yet be made, but an average of the guesses now being indulged in is approximately \$20,000,000. The carriers will get this for the year 1917 and the Administration will get it for 1918, but since 1917 is figured in the standard return it will boost the operating income for one of the years now being used, and consequently the corporations will figure in the increase twice. The Postmaster General alone will suffer.

Demurrage.—In a case brought by the American Smelting & Refining Company the commission has held that to permit complainant to obtain cars for plant use at charges less than those paid by others for detentions of similar duration would be unlawful. The complainant had used various cars of the carrier for its own plant purposes and protested payment of demurrage thereon.

Coal.—In a case brought by the Canton Chamber of Commerce the Commission found that rates via the lines of the Pennsylvania Company for the transportation of bituminous coal from the Pittsburgh and Connellsville districts in Pennsylvania subjected Canton, Ohio, to undue prejudice and disadvantage and unduly preferred Youngstown and Cleveland, Ohio.

In the case of Compton Coal Company, et al, the commission held that the rates on coal from Castle Gate, Helper, Price, and Sunnyside, Utah, to Boise, Nampa, and Caldwell, Idaho, had not been shown to have been unreasonable and that no damage had been incurred.

In the Diamond Alkali Company case the Commission found rates legally applicable on coal from Cowan, Pa., to Alkali, Ohio, to have been unreasonable prior to March 27, 1917, and waived the undercharges.

In the case of Bennett Grain Company the charges on coal, in earloads, from Benton and Zeigler, Ill., to points in South Dakota and Minnesota, reconsigned en route to other points in those states, were found to have been unreasonable to the extent that they exceeded the joint through rates plus a reconsignment charge, and reparation was awarded.

In the case of National Fireproofing Company the present intrastate rate of \$2.10 per ton on coal, in earloads, initiated by the Director General of Railroads, to apply from Nelsonville, Ohio, to Aultman, Ohio, was found to be unreasonable. A reasonable maximum rate of \$1.60 per ton has been prescribed.

In the case of Mississippi River & Bonne Terre Railway through rates charged on shipments of railway fuel coal and commercial coal from mines in Southern Illinois to destinations on the Mississippi river & Bonne Terre Railway in Missouri, composed of separately established proportional rates to and from East St. Louis, Ill., or Dupon, Ill., were found unreasonable, and reparation was awarded.

Petroleum.—In a case brought by the Pure Oil Company the commission found the rate applicable to the transportation of petroleum or its products, in earloads, from the midcontinent oil field of Kansas and Oklahoma to Minneapolis and Willmar, Minn., to be unreasonable and unduly prejudicial when applied to the transportation of crude, gas, and fuel oils, in earloads, to the extent that it exceeds 5 cents per 100 pounds less than the rate contemporaneously maintained from and to the same points on refined oil. In this same case the commission also held that the rate applicable to petroleum or its products from and to the same points is not unreasonable or unduly prejudicial when applied to the transportation of distillate, i. e., unfinished kerosene.

In the case of Kansas Oil Refining Company v. Director General et al, the rates on refined petroleum oil and gasoline, in earloads, from Coffeyville, Kans., to Garden City, Mo., were found to

have been unreasonable, and reparation was awarded. A rate not exceeding 19.5 cents per 100 pounds has been prescribed for the future.

In the Sunland Oil Company case a rate of 95 cents per 100 pounds on gasoline, in earloads, from Wilson, Okla., to El Paso, Texas, was found to have been unreasonable to the extent that it exceeded 44.5 cents, and reparation was awarded.

New Complaints

Docket No. 11113—Ohio Cities Gas Company, Columbus, Ohio, v. C. & O. et al.

Filed December 26, 1919, against the fourth class rate of 24 cents on *gas oil* from Cabin Creek Junction to Petersburg, Va., as unjust and unreasonable to the extent it exceeded 16.1 cents.

Asks for reparation.

Docket No. 11114—Aeme Cement Plaster Company, St. Louis, v. Fort Worth and Denver City et al.

Filed December 26, 1919, against unjust and unreasonable rates on *solar oil* from Iowa Park, Texas, to Aeme, Oklahoma.

Asks for fuel oil rates and reparation.

Docket No. 11119—International Paper Co., New York, v. Maine Central et al.

Filed December 29, 1919, against unjust and unreasonable rates on *fuel oil* from Portland, Me., to Livermore Falls and Rumford.

Asks for reasonable rates and reparation.

Docket No. 11122—Seaboard By-Product Coke Co., Newark, N. J., v. Monongahela Ry. Co. et al.

Filed December 27, 1919 against unjust and unreasonable charges on *coal* from P. and L. E. mines via Sharon, Pa., and Erie to Seaboard, N. J., by reason of failure to follow routing and time instructions.

Asks for reparation.

Docket No. 11124—Perry County Coal Corporation et al, v. Illinois Central et al.

Filed December 31, 1919, against unjust and unreasonable charges on *coal* from complainants' mines in Belleville group to points on the Illinois Southern in Illinois and Missouri and points in Missouri on the Mississippi and Bonne Terre in Missouri, because there are no joint rates.

Asks for joint rates, not in excess of those from mines on the Illinois Central in the Belleville Group.

Docket No. 11127—Pochlmann Bros. Co. et al, v. Indiana Harbor Belt et al.

Filed December 30, 1919, against unjust and unreasonable rates on *anthracite coal* to Illinois destinations by reason of increases applied to both factors in the combination.

Asks for joint through rates, a general reconstruction of the switching district of Chicago to include Morton Grove, Rogers Park, Elmhurst, Hinsdale, Western Springs and LaGange and a general readjustment in the outer zone based on geographical considerations and reparation.

Docket No. 11133—Soper Coal Co. et al, Cutler, Illinois, v. Wabash et al.

Filed December 31, 1919 against unjust, unreasonable and unjustly discriminatory rates on *coal* from mines at Cutler, Illinois.

Asks for the Belleville group rates.

Docket No. 11134—Jones & Laughlin Steel Co., Pittsburgh, v. Aliquippa & Southern et al.

Filed January 3, against unjust and unreasonable rates on *iron ore, coal and other raw products* inbound and manufactured *iron and steel articles* from and to Woodlawn, Pa., by reason of the failure of trunk lines to absorb terminal charges of the principal defendant.

Asks for reasonable rates and reparation amounting to \$200,000.

Docket No. 11142—Cannon Manufacturing Co., Kannapolis, N. C., v. Southern et al.

Filed January 9, 1920, against unjust and unreasonable combination rates on *coal* from Stanley Junction and Morning Glory, Tenn., to Kannapolis and Concord, N. C., as unjust and unreasonable because in excess of the joint through rates from the points of origin to other North Carolina points with which Kannapolis and Concord are usually grouped.

Asks for reasonable rates and reparation.

Docket No. 11143—Seaboard By-product Coke Co., Seaboard, N. J., v. Philadelphia & Reading et al.

Filed January 16, against unjust and unreasonable rates on *coal* from mines on the Pittsburgh & Lake Erie to Seaboard.

Asks for reasonable rates and reparation.

Docket No. 11144—Gulf Refining Company of Louisiana v. Texarkana & Fort Smith et al.

Filed January 10, complains of unjust and unreasonable rate on *gasoline and lubricating oil* between Port Arthur, Tex., and Memphis, Tenn.

Asks reparation

Docket No. 11149—Fifth and Ninth Districts Coal Bureau v. A. T. & S. F. et al.

Filed January 12, against unjust and unreasonable rates on *coal* from mines in the Fifth and Ninth districts of Illinois to destinations in states of Illinois, Indiana, Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Missouri and Kansas.

Asks for just and reasonable rates.

Docket No. 11151—Standard Asphalt & Refining Company, Inc., v. Texas Pacific et al.

Filed January 13, against unjust and unreasonable rates on *crude oil* from New Orleans and Plaquemine, La., to Independence, Kansas.

Asks for just and reasonable rates and reparation.

Docket No. 11152—Hord Alkali Products Company et al, v. C. B. & Q. et al.

Filed January 13, against unjust and unreasonable rates on *steam coal* between points in Wyoming and Lakeside, Hoffland and Antioch, Nebraska.

Asks just and reasonable rates and reparation.

Docket No. 11154—Sligo Iron Store Co., St. Louis, v. Western Maryland et al.

Filed January 15, 1920, against unjust and unreasonable rates on fine *smithing coal* from Coketon, W. Va., to Lamar, Colo., due to alleged misrouting, and the addition of fractions to the rates.

Asks for reparation.

Docket No. 11155—Shaffer Oil and Refining Co., Chicago, v. A. T. & S. F., et al.

Filed January 16, 1920, against a rate of 26 cents on *crude petroleum* from Gahagen and Shaffer's Spur, La., to Pershing, Okla., as unjust and unreasonable.

Asks for reasonable rates and reparation.

Docket No. 11156—Central Pennsylvania Lumber Co., Williamsport, Pa., v. B. & O. et al.

Filed January 17, 1920, against a rate of \$3.25 on *coal* from Lucinda, Pa., to Ricketts, Pa., via an interstate route, as unjust and unreasonable because in excess of a rate of \$2.35 to a more distant point.

Asks for a reasonable rate and reparation.

Docket No. 11159—Choate Oil Corporation, Oklahoma City, v. C. R. I. & P. et al.

Filed January 19, 1920, against unjust, unreasonable and unjustly discriminatory rates on *crude petroleum* from points in the Burkburnett district to Oklahoma City in favor of Cushing, Okmulgee, Sapulpa, Tulsa, Kansas City, Sugar Creek, Fort Worth and Shreveport.

Asks for a rate not exceeding 18.5 cents from prior to October 14, 1919, and reparation amounting to \$14,000.

Docket No. 11169—National Fireproofing Co., Pittsburgh, v. Pennsylvania Co. et al.

Filed January 22, against unjust, unreasonable, unjustly discriminatory rates on *coal* from Branchton, Queen's Junction, Leesburg and Redmond, Pa., to Perth Amboy, Natco and Port Murray, N. J.

Asks for reasonable joint rates and reparation.

Sub. No. 1.—Same as foregoing as to shipments from County Home, Woodyville Junction, Carnegie and Rook, Pa., to Lorillard, Perth Amboy and Port Murray, N. J. Same prayer

Tentative Reports

Docket No. 10552—The Pittsburgh & West Virginia Ry. Co., et al, v. P. & L. E. R. R. Co., et al.

A tentative report in this case has been proposed by Attorney-Examiner R. E. Quirk, the syllabus of which is as follows:

"Divisions accorded complainants on bituminous coal, in carloads, from stations on their lines to various destinations on defendants' lines found unreasonable and inadequate, but not unduly prejudicial. Reparation awarded."

Docket No. 10704—Tide Water Oil Co. v. Director General et al.

A tentative report in this case has been pro-

posed by Attorney-Examiner M. A. Pattison, the syllabus of which is as follows:

"The practice of the Central R. R. Co. of New Jersey and its connections in absorbing the charges of the East Jersey R. R. & Terminal Co. at Bayonne, N. J., on traffic to and from certain independent industries served by the latter while refusing to absorb the charges on traffic of complainant, other than lighterage freight, not found to be unjustly discriminatory or unduly prejudicial, as alleged. Complaint dismissed."

Docket No. 10174 (and Subs I to I, inclusive)—National Tube Co. et al, v. P. C. C. & St. L. R. R. Co. et al.

A tentative report in this case has been proposed by Examiner G. H. Mattingly, the syllabus of which is as follows:

"1. The Benwood & Wheeling Connecting Ry. and the Mercer Valley R. R. found to be plant facilities and not common carriers and the demurrage tariffs of those roads filed with this Commission found to be of no force and effect.

"2. The trunk line demurrage tariffs applicable to the detention of cars by industries served by the industrial lines named above not shown to result in unreasonable or unduly prejudicial charges.

"3. The McKeesport Connecting Railroad found to be a common carrier and rules for car interchange between it and its trunk line connections and basis for settlement of accrued charges suggested."

Docket No. 10791—Boehmer Coal Company, Inc., et al, v. P. C. C. & St. L. R. R. Co. et al.

A tentative report in this case has been prepared by Examiner E. H. Waters, the syllabus of which is as follows:

"Rates for the transportation of coal in carloads from points in Illinois to East St. Louis, Ill., and St. Louis, Mo., not found unreasonable or otherwise unlawful. Complaint dismissed."

Docket No. 10885—Indian Refining Co., Inc., v. B. & O. R. R. Co. et al.

A tentative report in this case has been proposed by Examiner T. M. Woodward, the syllabus of which is as follows:

"Rate on petroleum gas oil from Lawrenceville, Ill., to Petersburg, Tenn., by route specified held unreasonable, unjustly discriminatory and unduly preferential. Reparation awarded. Fourth Section Applications denied."

Docket No. 10768—Empire Refineries, Inc., v. Director General et al.

A tentative report in this case has been proposed by Examiner Harris Fleming, the syllabus of which is as follows:

"Charges collected on a carload of gasoline shipped from Cushing, Okla., to Gastonia, N. C., and rebilled from that point to Syracuse, N. Y., not shown to have been unreasonable. Complaint dismissed."

Docket No. 10814 (and related cases)—Seaboard by-product Coke Company v. Director General et al.

A tentative report in this case has been proposed by Attorney-Examiner C. F. Gerry, the syllabus of which is as follows:

"Rates on by-product coke, in carloads, from Seaboard, N. J., to Syracuse, N. Y., to certain deliveries in Brooklyn, N. Y., and by way of New York harbor to Port Chester, N. Y., and Bridgeport, Higganum, and Midway, Conn., not found to have been unreasonable. Carload rates on the same commodity from Seaboard and Wharton, N. J., to certain points in New York and Pennsylvania found to have been unreasonable. Reparation awarded."

Docket No. 10594—Wholesale Coal Trade Association of New York, Inc., et al. v.

Director General et al; and

Docket No. 10684—Lehigh Valley Coal Sales Co. v. Director General et al.

A tentative report in this proceeding has been proposed by Examiner W. N. Brown, the syllabus of which is as follows:

"Upon complaints alleging that the demurrage charges and rules in effect since November 11, 1918, on coal held at Baltimore, Md., Philadelphia, Pa., and at certain points in the vicinity of New York, N. Y., for transshipment by water beyond were and are unreasonable, unjustly discriminatory and unduly prejudicial; *Held*, that

"1 The free time of three days under the average agreement between December 1, 1918, and March 31, 1919, inclusive, was unreasonable, and that five days' free time would have been reasonable during that period, and that the present free time of five days is not unreasonable.

"2. The charge of \$3 per car per day for excess detention between December 1, 1918, and March 2, 1919, inclusive, was unreasonable to the extent that it exceeded \$2, and that the present charge of \$2 is not unreasonable.

"3. The monthly period for adjusting credits and debits under the average agreement is not shown to have been or to be unreasonable.

"4. The demurrage rules and regulations maintained at the Lake Erie transshipping ports are unduly prejudicial as compared with those maintained at the tidewater transshipping ports.

"5. The record does not justify any general relief with respect to demurrage charges which accrued during a strike of tugmen and bargemen in New York harbor.

"Reparation awarded or collection of undercharges waived to the basis above found reasonable."

Docket No. 10936—The Atlantic Refining Company v. Director General et al.

A tentative report in this case has been proposed by Attorney-Examiner R. E. Quirk, the syllabus of which is as follows:

"Rates exacted by defendants for transporting bituminous coal, in carloads, between yards of complainant situated in Philadelphia, 1.6 miles apart not shown to have been or to be unreasonable. Complaint dismissed."

Petitions for Rehearing

Docket No. 10367 and Sub. No. 1—W. A. Gosline & Company v. Director General et al. In this

complainant routed coal from Pennsylvania mines to Toledo over a route where no through rate was in effect, and as a consequence each factor of the combination was increased by the amount authorized in General Order No. 28. The commission ordered the payment of reparation and found that rates on coal made by increasing each factor of a combination were unreasonable. Mr. Fletcher and his associates, attorneys for the Railroad Administration, have filed a petition for rehearing in the case and contend that the rate applied was a through rate and not a combination; that the Freight Rate Authority requiring the addition of the maximum allowed under General Order No. 28 to the sum of the through rates used in a combination and not to the factors thereof was not a concession of the unreasonableness of the latter course, and that the carriers were obliged to send the shipments over the routes assigned and apply the rates in effect thereon. Something over thirty different reasons are assigned for a reopening of this case.

Docket No. 10363—Solvay Process Company v. D. L. & W. R. R. Co. et al. In this case the commission found to have been and to be unreasonable rates charged for shipments of limestone, in carloads, from Jamesville, N. Y., to Solvay, N. Y., and awarded reparation. It will be recalled as the case in which the Department of Commerce intervened and submitted an elaborate brief. The Railroad Administration subsequently filed a petition for rehearing, and among numerous objections to the commission's finding stated that the award of reparation was not justified except upon the most narrow and technical interpretation of the law, and that if the principle of the decision were generally applied all sorts of discriminations would result. The Railroad Administration also expressed the belief that shippers of all low-grade commodities moving for a short distance would flood the commission with complaints based upon this decision and that the amount of reparation which the Railroad Administration would be called upon to pay would be enormous. The commission has given due consideration to this petition for rehearing and denied it by an order entered January 12

Released Rates

Released Rates Order No. 86—Ore and Concentrates from Alaskan Points to Seattle and Tacoma, Wash. This order, entered November 10, is responsive to 20th Section Application No. 88, filed by The Copper River & Northwestern Railway Company. It authorizes the establishment, upon not less than thirty days' notice, of rates on ore and concentrates in sacks, dependent upon the value of the property transported. These rates are to be maintained until otherwise ordered by the commission.

Released Rates Order No. 92—Ore in Carloads from Lake Valley, New Mexico, to Douglas, Ariz. This order, entered January 2, is responsive to 20th Section Application No. 141, filed by the A. T. & S. Fe R. R. It authorizes the establishment, upon not less than one day's notice, of rates on ore, in carloads, minimum

weight 60,000 pounds, but not to exceed full space or weight loading capacity of car, from Lake Valley, N. M., to Douglas, Ariz., shipped in interstate commerce, dependent upon values declared in writing by the shipper. These rates are to be maintained until otherwise ordered by the commission.

Released Rates Order No. 93—Ore in Carloads, from Mullan and Hunter, Idaho, to Bradley, Idaho. This order, entered January 2, is responsive to 20th Section Application No. 139, filed by the Northern Pacific Railway. It authorizes the establishment, upon not less than one day's notice, of a rate of \$1 per ton of 2,000 pounds, minimum weight 60,000 pounds, from Mullan and Hunter, Idaho, to Bradley, Idaho, on ore, shipped in interstate commerce, dependent upon value not exceeding \$100 per ton and so declared in writing by the shipper or agreed upon in writing as the released value of the property. This rate is to be maintained until otherwise ordered by the commission.

Released Rates Order No. 95—Ore, Refuse Manganese, in Carloads, from Batesville, Ark., to Rusk and North Rusk, Tex. This order, entered January 2, is responsive to 20th Section Application No. 140, filed by Agents Leland and Morris for and on behalf of all carriers parties to Leland's I. C. C. No. 1212 and Morris' I. C. C. No. 678. It authorized the establishment, upon not less than ten days' notice, of a rate of \$2.20 per ton of 2,000 pounds, minimum weight 100,000 pounds except where weight carrying capacity of car is less, in which case weight carrying capacity of car will govern as minimum weight, from Batesville, Ark., to Rusk and North Rusk, Tex., on ore, refuse manganese, in carloads, shipped in interstate commerce, dependent upon the value declared in writing by the shipper, or agreed upon in writing as the released value of the property, not exceeding \$10 per ton of 2,000 pounds. This rate is to be maintained until otherwise ordered by the commission.

Railroad Administration

Earnings.—The Director General has announced the operating results for the month of November, which cover practically all roads under Federal control. The net operating income for November was \$22,000,000, which represents a loss of \$53,000,000 to the Government after allowing one-twelfth of the annual rental. This month was of course abnormal, owing to the coal strike, and the results have not been surprising. In his statement the Director General reviews the operating results during the two years of Federal control, and eliminates 1918 because it was a war year and because the increases in rates were effective only during six months, while the increased wages to a great extent were effective during the whole year. The first six months of 1919 are considered abnormal because of the slump in freight business following the armistice, and the last two months were so affected by the coal strike as to be of no value for comparative purposes. This leaves the four months, July to October, as representative of approxi-

mately normal operating conditions. The profit to the Government during those four months was \$15,200,000, and the deficit for the twenty-three months ended with November is \$527,200,000. The Director General concludes with the statement that if the advanced rates had been in effect from the beginning of Federal control there would have been a surplus at the end of October, 1919, of about \$14,000,000 instead of the deficit referred to above.

Traffic.—The Director General has given out a statement that indications are that the demand for transportation during January and February will be extraordinarily heavy. The figures available for the early part of January indicate a large increase and there is a promise of an even greater increase as the winter progresses. Mr. Hines concludes with an assurance that the Railroad Administration will make every effort to meet this extraordinary demand during the balance of Federal control and hopes for the continued co-operation of the shipping public.

Coal Mine Ratings.—The Car Service Section of the railroad Administration has issued a revised circular outlining rules for rating for car distribution purposes coal mines loading coal at mine tipples. The principal changes are:

1. The number of idle hours at the mine are to be used in computing car supply will be figured on a basis similar to the one used in the operators' reports to the Geological Survey.

2. Where the carrier does not send at least 25 per cent of the cars rated or ordered on to the tipple before 7 a. m. those cars so furnished will not be counted in that day's supply unless they are loaded.

3. In order to prevent the use of cars for storage purposes the rating will be decreased by the number of cars held unbilled for more than one day.

Handicapped by Lack of Coal

One of the greatest coal, iron and steel companies in German-Austria finds itself in a serious situation in regard to an adequate fuel supply, as most of the mines which furnished the coal or coke consumed by the furnaces are situated in the new Czech territory, and the Czechs have practically ceased supplying the Austrian iron-works. As the Germans are not in a position to assist the company out of its difficulty it has been proposed to resort to electric smelting as a solution. In normal times the company operates twelve furnaces and produces about 600,000 tons of pig iron yearly. At the present time but one blast furnace is running.

One other European country that is confronted with the fuel problem is Italy, and it is also resorting to electric iron-ore reduction as a possible key to successful economical operation. Considerable interest attaches to a new venture of the Ansaldo Company at Cogne, in north-western Italy, with a 20-ton electric furnace installation. Germany will be a strong competitor for Italian markets, although the Ansaldo Company has a deposit of iron ore of a good grade and abundant alpine water power available for electric power generation.—Bureau of Mines.

PATENTS

CONDUCTED BY JOHN BOYLE, JR.

1,324,139—Wm. L. Ziegler, Sunset, Idaho. **Flotation Apparatus and Process.** The object is to secure by agitation, a thorough homogenizing of the frothed ore pulp. Air is injected into the upwardly moving column of pulp to produce a body of froth at the top of said column; the froth is beaten in a confined space to break up the larger air bubbles and produce a creamy froth while permitting the excess of air to escape.

1,324,149—John E. Greenawalt, New York, N. Y. **Magnetic Separator.** The magnetic particles are held to the depositing or concentrating surface of an endless belt by means of a powerful magnetic field acting through the belt, the belt traveling in a given direction and carrying the magnetic particles to a point beyond the magnetic field, where they are dropped, the non-magnetic particles and water of the original pulp being carried in the opposite direction. The belt is also subjected to a transverse reciprocating shaking movement to effect the release of the non-magnetic particles.

1,324,250—Chas. G. Hebbard, Joplin, Mo. **Concentrating Table** of the type in which there is specific means for securing a lateral movement simultaneously with the longitudinal movement, and also an improved mounting of the resilient supports.

1,324,301—Robert E. Carmichael, Damon, Texas, assignor of one-half to George Hamman, Houston, Tex. **Apparatus for Sulphur Mining** in which a heated fluid is pumped into contact with the sulphur strata and the fused sulphur thereafter pumped to the ground. Means for discharging mud into the bottom of the well for the purpose of cutting off inflowing currents of salt water and thus keeping the sulphur in a molten condition until it is pumped to the surface.

1,324,352—Wm. A. Hussey, Oakland, Cal., assigned to Jas. H. Alling and Francis M. Wright, of San Francisco, Cal. **Electrolytic Cyaniding Process,** consisting in subjecting a compound solution of a cyanid and a haloid salt to electrolysis, forming a cyanogen haloid salt around the anode and sodium amalgam at the mercury cathode, subjecting the finely pulverized gold and silver ore to the products of electrolysis for more thorough dissolution of the gold and silver, then interrupting the passage of the current there-through to decompose the sodium amalgam formed at the cathode, then intermingling anode and cathode products of decomposition to regenerate the original solution applied, then adding a zinc salt to break up the copper present in the electrolyte and finally electrodepositing or precipitating gold and silver dissolved in the electrolyte with soluble anodes of zinc.

1,324,451—John Hoffer, Mariana, Pa. **Safety Device for Elevator Cars and Mine Cages.**

1,324,491—Ross M. Bickley, Pittsburgh, Pa., assigned to Heyl & Patterson, Inc., Pittsburgh, Pa. **Apparatus for Handling Coal,** consisting of a screening device, a rotary picking table, means for discharging one grade of coal on one table and another grade upon another table, means for discharging the slack, a mixing chute and means for directing the coal from said tables and the finest coal into said chute simultaneously.

1,324,529—George Ullrich, Magdelburg, Germany, assigned to The Chemical Foundation. **Magnetic Drum Separator** provided with means for varying the intensity of the field whereby a premature discharge of the magnetically weak or coarse but magnetically strong material is prevented when such material is introduced between non-magnetic material.

1,324,791—Samuel L. Boggs, Ivanhoe, Va. **Flotation Apparatus** in which there is a new arrangement of feed, discharge and paddles.

1,324,921—Wm. Mosso, Neffs, Ohio. **Miner's Lamp** provided with two separate carbide containers.

1,325,028, 1,325,029, 1,325,030—Edmund G. Morgan, Chicago, Ill. **Cutter Chains for Mining Machines.**

1,325,031—Edmund G. Morgan, Chicago, Ill. **Mining Machine** for cutting out crescent shaped sections from the mine wall, breaking them into smaller sections and removing them by a flight conveyor for loading. Removes the fine particles of material produced during the cutting operation.

1,325,263—J. C. Patterson, Philadelphia, Pa. **Placer Mining.** Separates the water area of the stream and the value bearing loose material, for an extended distance, into a plurality of longitudinal channels, thinly divided from one another by means extending down through said loose material; successively closing the upstream extremities of the channels so formed while permitting the water to flow through an open channel, and successively removing the value bearing material from each closed channel.

1,325,293—Levi S. Hoon, Butler, Pa., one-half assigned to G. C. Bellis, Butler, Pa. **Method of Cleaning Oil Wells.** Removes the incrustation of wax by pouring a solution of water and caustic soda into the well, together with carbide for simultaneously heating and agitating the solution in the well.

1,325,554—Wendell L. Carlson and Earl C. Hanson, Washington, D. C. **Means for Locating Ore Bodies by Audio Frequency Currents.** An exploring coil is connected in a balanced electrical circuit energized by a source of audio-frequency current, which circuit will be immediately thrown out of balance when the exploring coil is brought into the vicinity of ore bodies and thus manifest the presence of the ore by actuating a suitable responsive device.

1,325,609—Adolph G. Bauer, Whitwater, Colo. **Mining Car.** A particular construction of car with hinged sides and removable end, a portion of which car is adapted to be placed in a tunnel previous to a blast, in such a manner that it will cover the bottom of the tunnel and the muck will fall into the cars when the blast is shot.

1,325,610—Adolph G. Bauer, Ouray, Colo. **Mining System.** A series of receptacles having hinged sides and ends are laid in the tunnel to receive the blasted material. This is compacted by raising the sides so as to act on the load transversely and then by raising the inner end so as to act on the load longitudinally.

1,325,817—Geo. D. VanArsdale and Chas. G. Maier, New York, N. Y. **Flotation Process** which comprises adding to a pulp of water and ground ore, an emulsifying agent, causing true emulsification of the agent so added, then demulsifying the agent and separating by flotation.

1,326,125—Rosa Wallner, Bisbee, Ariz. **Roasting Ores.** The ore is introduced into a rotating retort commingled with a combustible material, and while heating the retort externally fresh air is forced in opposite directions through the heated and ignited mass.

1,326,174—Walter O. Borchardt, Austinville, Va., assigned to New Jersey Zinc Co. **Flotation Apparatus** in which there is a layer of metallic spherules supported by the porous diaphragm in the bottom of the cell and through which the air enters the flotation cell.

1,326,255.—Alfred B. Day, Oliver Springs Tenn. **Mining Car Wheel.**

1,326,327—Robson Dunning, Schenectady, N. Y. **Oil Drill** in which the cutters may be removed from and replaced in the drill head without removing the drill head from the bore of the well.

1,326,338—Ralph Gregory, Kansas City, Mo., Assigned to Oil Well Reclamation Co., Chicago, Ill. **Oil Well Pump.** A particular construction of air lift pump which is self contained or independent of the casing of the well.

1,326,453—Archie H. Jones, Tonopah, Nev. **Flotation Apparatus** in which agitation is effected by both mechanical and pneumatic means.

1,326,463—John J. Nelson, Los Angeles, Cal. **Leaching Copper Ores** with sodium bisulfate and common salt, and precipitating copper from the filtered solution with iron in the presence of common salt.

1,326,506—Granville A. Humason, Shreveport, La. **Drill Bit** for deep well drilling in which the bit may be securely attached to the drill stem, so that there will be no liability of the bit becoming loosened when the drill stem is rotated backwardly or on account of the threads wearing.

1,326,509—Granville A. Humason, Houston, Tex. **Rotary Boring Drill** of the under reamer type.

1,326,855—Edwin Edser, Brockley, London; and Henry L. Sulman, London, England. **Ore Flotation Process** in which the ores are subjected either before or during the flotation to the action of a silicic acid solution.

Spain as a Copper Producer

Spain is the oldest and steadiest producer of copper in the world, with developed reserves sufficient to insure production from forty to sixty years. Spain's most famous producing mine is the Rio Tinto in the Province of Huelva, an enormous deposit worked by open pits, resembling in many respects America's so called "porphyry" deposits. Extensive British, French and Spanish interests control the output, and most of the Spanish copper is refined in England. Spain and Portugal together produce about 2.9 per cent of the world's output or around 43,000 metric tons of copper annually. In 1917 there were 1,901,341 metric tons of copper ore mined. The Rio Tinto Co., the Tharsis Companies and the Cordova Copper Co. are the chief producers. The Portuguese deposits are extensions of the Rio Tinto field. In 1918 Portugal furnished about one-fifth of the total production from the peninsula.

The development of Russia's copper resources is burdened at the present time by many difficulties, chiefly political, whose elimination will lead to a marked increase in the supply of copper from that country.—U. S. Bureau of Mines, Reports of Investigations.

SULPHUR COMPANIES

GO AFTER ACID BUSINESS

The sulphur companies are making a strong bid for the acid business, and are now quoting prices as low as \$14 to \$15 a ton f. o. b. mines. The Texas Gulf Sulphur Company started production in April at the rate of about 1,000 long tons per day, which has been increased to 1,500 tons or more. The total production of the three large sulphur companies will probably exceed 4,500 long tons per day.—U. S. Bureau of Mines, Reports of Investigations.

INDUSTRIAL NOTES

The Cornelia Copper Company at Ajo, Ariz., has recently finished and placed in operation an electrolytic plant for the treating of their ores. This plant is said to be the largest and most complete of its kind in the world and is attracting considerable attention in the mining fraternity.

Plans have been perfected for the erection of a \$3,000,000 plant to concentrate low grade magnetic iron ores on the eastern Mesaba range.

A large number of Duluth mining men are interested and the company has the backing of well-known financiers.

The Ingersoll-Rand Company have developed and are offering for sale, a new member of their well-known "Jackhammer" group of hand hammer drills. This machine, known as the Bar-33 "Jackhammer," is smaller and lighter than other Ingersoll-Rand machines of a similar construction. It fulfills a long-existing need for a light, self-rotating hammer drill.

Its weight of $21\frac{1}{2}$ pounds should be a very welcome feature, as it permits the use of a drill in locations and positions not accessible to heavier machines.

The manufacturer recommends this light drill for bench work in soft limestone quarries; for trimming in metal and coal mines, and for pop-hole work in quarries and open pit mines. In addition to the above the machine may be conveniently used for drilling holes in concrete and masonry foundations. This type of "Jackhammer" is not recommended for drilling deep holes or for use in hard rock, but for drilling where a machine of extremely light weight is necessary.

The Bar-33 is the fourth type of "Jackhammer" manufactured by the Ingersoll-Rand Company. Machines of this type are now available varying in weights: $21\frac{1}{2}$ -35-41, and 70 pounds.

The Thomas Devlin Manufacturing Company, Philadelphia, manufacturers of malleable soft grey iron, brass and steel castings, has issued the following interesting circulars dealing with costs:

Advance of labor cost of 17 per cent since Circular No. 29 was issued, and the average now is 189 per cent over labor cost of 1909. The wages of five important tradesmen who produce hardware in our works are as follows:

Day Moulders—advance 171 per cent.

Piece Moulders—advance $212\frac{1}{2}$ per cent.

Machinists—advance $143\frac{1}{3}$ per cent.

Tool Makers—advance 171 per cent.

The method employed to arrive at the above percentage is as follows:

Laborers—advance $246\frac{2}{3}$ per cent.

1909—Moulders received \$18 per week—60 hours at 30c per hour. No difference then in favor of piece moulders.)

1920—Moulders (day) \$39 per week—48 hours at $81\frac{1}{4}$ c per hour, or 171 per cent advance since 1909.

Moulders (piece) \$45 per week—48 hours at $93\frac{3}{4}$ c per hour, or $212\frac{1}{2}$ per cent advance

since 1909, and the per cent is even greater than appears by extra help furnished on demand of the moulders.

1909—Machinists \$18 per week—60 hours at 30c per hour.

1920—Machinists \$35 per week—48 hours at 73c per hour, or $141\frac{1}{3}$ per cent advance since 1909.

1909—Tool makers \$18 per week—60 hours at 30c per hour.

1920—Tool makers \$39 per week—48 hours at $81\frac{1}{4}$ c per hour, or 171 per cent advance since 1909.

1909—Laborer's average, \$9 per week—60 hours at 15c per hour.

1920—Laborer's average, \$25 per week—48 hours at 52c per hour, or $246\frac{2}{3}$ per cent advance since 1909.

In addition to the increased percentages of labor entering into the cost of hardware, there has been an advance of over 150 per cent in raw materials, iron, coke and coal and they are still going up. War taxes levied by the National Government, capital stock taxes, income taxes, excess profit tax, transportation and other taxes, besides increased municipal taxes, all of which must be added to the cost of goods. Are you still wondering why goods are not and cannot be furnished cheaply if bankruptcy is to be avoided?

The Daily Mining and Financial Record of Denver, has the following to say about freight rates:

"Irrespective of his politics, our hats are off to United States Senator Charles S. Thomas of Colorado, who arose from his seat in the upper house at Washington a few days ago and told his fellow Senators how the railroads have continually discriminated against the west. Senator Henderson of Nevada and Senator Poindexter of Washington are also to be congratulated upon their firm stand in behalf of the inter-mountain country. The Cummins railroad bill was under consideration and these Senators made a strong fight to compel the insertion of a resolution in the bill which would make the railroad companies give the west fair rates in the event that the control of the roads passed from the government to the owners. For some unexplainable reason, the Senate would not see justice done.

"Senator Thomas showed that on the shipment of mining machinery into Nevada, the rate from New York to Goldfield was greater than charged from New York by way of San Francisco to South Africa. The discrepancy, according to Senator Thomas, consisted very largely in the addition to the shipment of the freight rate from San Francisco back to Goldfield, when, as a matter of fact, the freight did not go to San Francisco at all, but went direct from New York to Goldfield, but the charge to the shipper was the rate from New York to San Francisco plus the rate back from San Francisco to Goldfield. Senator Thomas also pointed out the fact that because of railroad discrimination the people in the state of Colorado,

which is one of the greatest sugar-producing states in the country, can buy Colorado sugar at Omaha and Kansas City and ship it back to Denver and other common points cheaper than they can buy it from those who manufacture the sugar at the very doors of this city. He also showed that while Denver to Galveston is a 1,000-mile down-hill haul, the freight rates are so arranged that it costs more to ship freight down hill from Denver to Galveston than it does to haul it up hill from Galveston to Denver.

"It is indeed strange that Members of Congress will continually ignore these outrages and allow the west to be treated like a stepchild of Uncle Sam. The resolution providing for an end to this outrage was voted down in the Senate and the surprising fact stands out that even some of the western Senators voted to continue this unfair practice. Western newspapers, commercial clubs and business men should let out a howl that will be heard down in Washington and fight against the return of the railroads to the owners unless assurances are given that these unjust, indefensible and outrageous freight rates will be ended. The Senator or Congressman who does not fight these unpatriotic railroads rates should be considered an enemy or traitor to the west."

CALIFORNIA'S 1919 MINERAL PRODUCTION IS SHOWN

The statistical division of the State Mining Bureau, under the direction of Fletcher Hamilton, state mineralogist, estimates the mineral production of California for the year 1919, just closed, at a total value of approximately \$182,463,000. This is a conservative figure, and includes all products, metallic and non-metallic, being in advance of the actual figures which will be available later after the complete returns are received from the various producers. This is a decrease of approximately \$17,000,000 compared with the 1918 total, and is due to the marked drop in prices and the cessation in demand of the so-called "war minerals."

Individually, increases were made by petroleum and gold. The former, while increasing but slightly in total number of barrels, showed an increase of about \$6,000,000 in value. Gold increased approximately \$800,000 in value, indicating that this form of mining in California is already beginning to readjust itself. However, this recovery from the downward trend of the preceding three years, and particularly from the abnormal drop in the 1918 output, is the result of improved grades of ore in some of the larger lode mines, rather than from the reopening of gold properties.

Notable decreases in value are shown by: Copper, approximately \$7,600,000; potash, \$6,000,000; tungsten, \$2,770,000; quicksilver, \$1,200,000; and by chromite, lead, manganese, and zinc. Dropping from the record figures attained in the period 1916-1918, the production of chromite, potash, and of tungsten became practically nil in 1919. Shipments of manganese ores amounted to only about 50 per cent of 1918 output.

The date of publication of the final and complete report on the mineral production for the year is dependent upon the promptness of the replies from the operators. The law requires that reports must be made to the State Mining Bureau, the details of the individual returns being held confidential.

The estimated quantities and values for 1919 are tabulated as follows:

\$17,320,000 gold.
1,244,000 (1,121,000 oz.) silver.
60,000 (100 tons) tungsten concentrates.
4,237,000 (22,300,000 lb.) copper.
254,000 (4,500,000 lb.) lead.
69,000 (970,000 lb.) zinc.
1,300,000 (15,000 flasks) quicksilver.
60,000 (500 oz.) platinum.
133,000,000 (100,000,000 bbl.) petroleum.
39,000 (1,500 tons) chromite.
220,000 (11,000 tons) manganese.
480,000 (60,000 tons) magnesite.
3,500,000 (47,000,000 M cu. ft.) natural gas.
13,550,000 brick, cement, building stone, crushed rock, etc.
2,000,000 miscellaneous "industrial" minerals.
5,130,000 salines (including borax, potash, salt, soda).

\$182,463,000, Total.

Going Back to the Multiplication Table and the Golden Rule

There has been much talk in certain influential circles about settling the new problems of the nation in a new way. How would it do to make an effort first to settle the new problem in the old way—the way in which we have won success without parallel in the history of the world; for there are certain great basic principles which do not change with the changing fashions of the hour, although many seem to have wandered a great distance away from this old-fashioned belief.

Our dear old world is somewhat topsy-turvy in certain parts of its territory. Ideas and ideals, in some nations, have suffered serious dislocation. It is not a time for excessive or unnecessary experimentation; it is a time for good cart-horse sense, a time to hitch our wagon to a star, but to be equally careful to have traces sufficiently long to allow the wagon wheels to run on earth and move something that must be moved for the benefit of civilization.

Let us stop talking about new ways of solving new problems. Let us renew our allegiance to the multiplication table and the Golden Rule, recognizing that saying a thing is so doesn't make it so, when the statement issued violates the great fundamental laws of life. Let us meet the future without fear and with a manly heart, confident that in the very near future men all over the world will be playing the great game of life straight as well as strong. — *From Com. Exchange Bank, Philadelphia, Pa.*

PERSONALS

A. B. Conklin, Chairman of the graphite section of the Alabama Chapter of the American Mining Congress, who has been spending some time in Washington in the interest of graphite producers, has returned to his home in Alabama.

Paul Armitage, of New York, was a caller at the offices of the Mining Congress in the interest of taxation matters affecting the mining industry.

Gen. John T. Barnett, Denver, Colo., is in Washington, where he is representing the oil producers in the provisions of the Leasing Bill affecting them.

John C. Howard, Salt Lake City, Utah, a director of the American Mining Congress, who has been spending several weeks in the East on business, has returned to his home.

Alex. R. Watson, Fairmont, W. Va., when recently in Washington, called at the offices of the Mining Congress and discussed the coal situation with the secretary.

John Haak, of Portland, Oregon, is in Washington on matters pertaining to the War Minerals Relief Bill.

E. A. Dickey, Secretary of the Pacific Coast Chrome Producers' Association, San Francisco, Cal., who has been in Washington since January 1 in the interest of a tariff upon chrome and the liberalization of war minerals relief measure, has returned to his home.

Nelson Franklin, Denver, Colo., who has done such excellent work in presenting tungsten matters to the Senate Finance Committee, together with Mrs. Franklin, is at the Willard.

Dr. Henry Mace Payne, of the Bertha Coal Co., Pittsburgh and New York City, spent a day in Washington during the month in the interest of export matters. Dr. Payne is chairman of the Coal Export Committee of the American Mining Congress.

T. A. Dubes of the Midwest Refining Co., has returned to Denver after spending several days in Washington and New York.

Col. Daniel B. Wentz, President of the Wentz Corporation, Philadelphia, was a caller at the offices of the American Mining Congress on January 28. Mr. Wentz is a Director of the Mining Congress.

Ross Blake, who is State Vice-President of the American Mining Congress of Arkansas, is at present in Washington, D. C., where he represents the manganese industry of the Batesville-Cushman manganese field, in national legislation.

One of the recent visitors at the headquarters of the American Mining Congress was **Sumner S. Smith**, manager of the Mining Department of the Alaskan Engineering Commission now located at Anchorage. Mr. Smith is an enthusiastic Alaska booster, but he put aside plucking wild violets on the sun-kissed hills of the Matanuska Valley long enough to sail for the United States about the middle of November for the purpose of spending two weeks in the center of national activities, Washington. Mr. Smith tells the interesting story of the development of Alaska of the agricultural possibilities, the mining developments, and the building of the Government railway which now runs two trains weekly between Seward and Talkeetna Station. The Alaskan Government mines under Mr. Smith's management are now producing about 3,500 tons of a good quality bituminous coal for the use of the Government railways, and the producing capacity will be increased as needed. The lure of the Matanuska Valley was much stronger than the lure of cold-ridden Washington at this time of the year and Mr. Smith departed on the 15th for America's much neglected bonanza lands, after explaining to his intimate friends that the valley of his adoption rarely has more than two feet of snow, and that 20 degrees below zero had no terrors for a man who could stand the penetrating atmosphere of Washington in January.

At the recent meeting of the Colorado Chapter of the American Mining Congress and the Colorado Metal Mining Association, held in the Capitol building at Denver, Colo., George E. Collins of Denver was elected governor of the State Chapter of the American Mining Congress; J. F. Welborn, Denver, first vice-governor; Charles A. Chase, Telluride, second vice-governor; George H. Stahl, Cripple Creek, third vice-governor; M. B. Tomblin, Denver, reelected secretary; A. M. Collins, Creede, treasurer; R. M. Henderson, Breckenridge; S. D. Nicholson, Leadville; C. F. Clay, Denver; Charles A. Chase, Telluride; M. Schoot, Denver; M. Kuryle, Eureka, and Nelson Franklin, Denver, directors.

George M. Taylor, Colorado Springs, was elected president of the Metal Mining Association; Jesse F. McDonald, Leadville, first vice-president; R. M. Henderson, Breckenridge, second vice-president; L. A. Ewing, Boulder, third vice-president; A. M. Collins, Creede, treasurer; and M. B. Tomblin, Denver, reelected secretary.

Among the important matters under discussion were: Increased Cost of Mining Operations, Workmen's Compensation, Oil Shale, Taxation, Blue Sky Laws, relief for Tungsten, Manganese and other War Minerals, and a solution of the Gold Problem.

Pig Iron Production

Pig-iron production for the year 1919 will total about 29,500,000 tons as compared with 38,400,000 tons in 1918, 37,860,000 in 1917, and 38,844,598 tons in 1916, showing the notable decline in output due chiefly to the labor troubles of the year.—Bureau of Mines.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

NATIONAL ENTITY

Since the armistice, the nation has been suffering from international indigestion. We have discovered that America cannot successfully cultivate a crop of European political intrigues. We have learned that the economic ills of Europe will not fertilize our own crops so well as those of Europe. We have awakened to the fact that during the past few decades European tares of bolshevism have limited our full harvest of democracy, and we are weeding out the tares to transplant them in the soil of their origin, where thrives the Russian thistle. We are going to take precautions henceforth to test these innocuous weeds before they come to our shores, that the full crop of democracy may be harvested against the day of famine in some foreign country, when this nation may again be called upon to help save the civilization of the world.

All of which demonstrates that the people of the United States have decided to preserve their national entity, their chief asset upon entrance into this war, and which will continue to expand in peace if we attend to our own domestic business. Such is the course of enlightened self-interest upon which the United States was successfully nourished from babyhood to manhood. Enlightened self-interest is the balanced ration upon which every government will wax strong in the interests of humanity. The chief

failure of the German nation was due to the fact that "enlightened" was left out, and the ration was thereby seriously unbalanced. Russia and many of the smaller European countries are more to be likened to Romulus and Remus, except that they have not yet been weaned and are still knocking at the door of the wolf for three meals a day. Like Romulus and Remus, once weaned, these nations may become politically and economically independent, with national entities of their own, and as such useful among the nations. Had it not been for the enlightened self-interest of Belgium in so bravely protecting her frontier, freedom would have been forced to give way to Teutonic slavery. There is no better example of national entity than that of heroic Belgium, which is further evidenced by the fact that, notwithstanding the complete devastation of her country, she was the first to show signs of recuperation and is now well on the road to recovery.

This war has enabled us to separate the tares from the wheat and to make intelligent appraisal of our national assets. In the interests of humanity let us maintain our national poise and concentrate upon the solution of our domestic problems. Unless we succeed in accomplishing satisfactory results, our heavy sacrifice to protect the freedom of humanity will indeed have been too dearly bought and the future security of an enduring peace greatly impaired.

DEFLATION

If we are to preserve our national entity and poise, one of the first problems of domestic concern is that pertaining to our currency and finances. There is no problem the solution of which is more important to the man in the street. The security and progress of our domestic industry are no less dependent upon a proper solution of this problem than our position in international affairs.

Our best financial thinkers are agreed that inflation, with the tremendous drain upon our domestic resources by Europe and the decline in the physical volume of production, have all been accountable for the continually rising commodity prices. If these have been the causes, the cure for our economic ills must be met by deflation, by a more rapid recuperation of European production and by an increased output in our own country.

The Guaranty Trust Company, of New York, in a circular issued February 19, 1920, made the following reference with respect to deflation:

"There are those who feel that, while deflation is undoubtedly necessary, it should take place gradually and not be unduly forced and accelerated by large losses of gold, the foundation of our monetary and credit structure. A gold dollar in the vaults of a Federal Reserve Bank serves, or may serve, as the basis of deposit liabilities of \$2.50, and these deposits, to the credit of a member bank, may in turn serve to enable credit extension by that bank of anywhere from seven and a half to fourteen times that amount, or say \$19 to \$35. With reserves close to the legal minimum, therefore, every million dollars of gold lost practically means forced credit contraction of perhaps twenty millions, unless contraction comes by normal industrial liquidation."

While deflation is the most important of the admitted cures, it must operate gradually over a number of years in order to permit industry to adjust itself to the changing conditions without loss of production. A too rapid deflation would dislocate industry and, by curtailing production, accentuate the severity of all of our economic ills.

In 1919 the gold stock of the United States suffered a loss, by excessive exportation and consumption in manufactures and the arts, of \$292,796,000. This loss in gold coin and bullion is equivalent to from twenty to thirty-five times that amount in terms of expanded credit, in accordance with the statement of the Guaranty Trust Company. Based upon their lesser estimate this amount of gold coin and bullion is equivalent to a forced credit contraction of 5.8 billions. Our losses by gold exportation and sales to the trades are continuing at the same and even a greater rate than that of 1919.

The effect has been still further to reduce the Federal Reserve ratio of reserves to net deposit and note liabilities from 44.8 per cent, December 26, 1919, to 42.7 per cent, February 20, 1920, leaving a margin of only 4.7 per cent above the legal minimum required under the Federal Reserve Act. Conservative bankers felt that the ratio of December 26 was too low; certainly they must be somewhat alarmed at the still lower ratio of February 20.

The time has come when deflation in our credit and currency structure is a forced necessity, but, if these excessively heavy losses are allowed still further to reduce our gold reserve, the deflation will be on a scale far too great for the country to sustain. The production of new gold, it is estimated, will not exceed \$40,000,000 this year, a decline of \$19,000,000 from 1919, unless constructive relief is afforded by Congress. The gold excise and premium proposal, which is now being considered, creates the machinery by which the consumer of gold in the arts and trades may pay more nearly the cost of its production at the present time. The loss in production of new gold to the reserve will still further accentuate the volume of deflation. It will be necessary, therefore, to scrutinize our exports of gold more carefully and to increase the production of new gold at least to satisfy the requirements in manufactures and the arts.

The attendant ills of a too rapid deflation cannot too strongly be emphasized. Labor difficulties will become more, rather than less, numerous. The loss of employment alone will create a burden upon the entire public in a lessened production, which cannot be borne without suffering and the impairment of health. To safeguard such a situation by applying a constructive remedy now will be the most effective protection of the broad public interest.

LABOR AND THE RAILROADS

The master minds who represent the millions of common citizens—holders of railroad stocks and bonds—are once more in control of the nation's transportation. The Government, as represented by the administrative forces, has relinquished its stewardship over railroads and express companies. America's first, and probably last, experiment in the nationalization of quasi-public utilities is ended, and America can now audit the books.

Millions have been lost—millions of hard-earned American dollars coming from millions of pockets. Many years of careful reorganization, reconstruction, replacement, and improvements will be required to put the great arteries of travel once more into normal operating condition. Vast sums must be expended to meet the needs of commerce. The skill of the greatest financial leaders will be taxed to the utmost to carry out this task, a task which, if properly performed, will go far toward readjustment of American business to normal.

America should be tolerant, even sympathetic. The gathering together of shattered executive machinery; the picking up of the thread ends, long lost and inconceivably scattered; the bringing into play of well-established policies, long since cast aside; the reestablishment of the necessary *esprit de corps*, that cohesive force which goes to maintain discipline and interest in an organization—all these are phases of the problems requiring consummate judgment. They cannot be accomplished in a day.

It all seemed so simple—this terse announcement—"Government control will cease at midnight, March 1." It is just the changing of commanders on the bridge. Hundreds of thousands of men and women who had suffered under the arbitrary atmosphere—the "non-competitive" spirit which resulted, and quite naturally, from federal employment—breathed a sigh of relief when they thought of March 1, evidently expecting great things through the return to competitive conditions. Shippers, weary of dealing with governmental agencies—traveling the red-tape route—welcomed emancipation. Hundreds of thousands of executives, clerks and subalterns spent weeks of uncertainty—their future unknown. Meanwhile, President Wilson gratefully looked forward to the day when he could rid himself of a duty far from desirable, wearied, no doubt, by the monotony of a losing game and beset on all sides by insistent theorists, labor leaders, politicians, who were willing that the public purse should continue to carry the burden of a bankrupted experiment for nest-feathering purposes. There is every reason to believe that the President and his advisers were glad when the clock struck the eventful hour.

Well, it is all over. Yet, is it over? There remain the lessons—well and expensively learned—many of them valuable as illustrating what NOT to do, and as many helpful alike to railroad management, labor and the public. These lessons are perhaps worth the cost except where, as in the case of the unions, dominated by the spirit of the American Federation of Labor, a proper conception of the rights of the great majority—the unlisted stockholders in railroads—has been grossly warped through false dependence upon the Federal Crutch.

As to the Railroad Bill, it is the best we have. It might be better, but goodness knows it might be worse. As to the Railroad Administration, it was in the hands of splendid men who were forced to work out a problem, stupendous at

best and complicated by the almost grotesque, theoretical ideas of powers above them. Therefore, no criticism should fall to their lot. The administrators, too, have learned much which may be profitably applied to private operation.

Labor, as represented by the Federated Brotherhoods, has been taught a valuable lesson: that minority control of public matters is ended; that the rights of the great unorganized mass are hereafter to be recognized by Congress by the administrative authorities, and, if they are wise, by themselves.

There will be no great national strike. The railroad man will carry his share of the burden until the deflation of currency is accomplished and time and national readjustment correct inequalities. The misguided radicals who are clamoring for nationalization and control will continue, for a space, to declaim adversely, but the great rank and file of railroad men are Americans, good sports, and will play the game. They have gained much through the exigencies of war; they will insist upon justice and fair play, but as Americans they will respect the court of last resort—the opinion of the public.

INALIENABLE RIGHTS

"Stand faithfully by our friends and elect them. Oppose our enemies and defeat them." In these words, the American Federation of Labor launches itself into the political campaign. By this act, Mr. Gompers and his associates mark the beginning of the end of the great organization represented by them as a purely labor organization. Henceforth, the great mass of men and women whose votes control American Government shall recognize the line of demarcation which must decide their political activities.

"If Congress does not pass the Plumb Plan Bill, we will elect a Congress which will." This declaration, not long ago, from the lips of Frank Morrison, secretary of the American Federation of Labor, might indicate what the federation plan is.

"We will accept no compromise. If Congress does not pass this legislation, we will tie the railroads up so hard that they will never run again"—a declaration by Bert Jewell, acting president of the railroad department of Mr. Gompers' organization, will bear repeating. The threat was made when the brotherhoods were striving to push railroad nationalization down the throats in Congress.

"We demand a six-hour work day and nationalization of coal mines," said the United Mine Workers, who were willing to freeze the nation into submission.

"Congress has no right to pass a law which will take from the men their inalienable right to strike," said Samuel Gompers—the same Gompers who marched at the head of hundreds of brewery workers in Washington, and under the waving Stars and Stripes, demanded beer for the masses.

The new pronunciamento is issued by the same hierarchy which has objected to so many laws lately. This same hierarchy did not step in between the public and the radical leaders who forced the nation to suffer through the coal strike, nor did it interfere to prevent the steel strike, with its loss in structural steel, its suffering and disorganization. Nor did it interfere, noticeably when nationwide transportation stagnation was threatened. Nor has it even audibly, or publicly declared to its millions of followers:

"The nation needs maximum production. Forget your troubles and produce!"

Instead, when the American spirit led a committee of labor leaders in New York City to declare in favor of a six months' truce between organized labor and all employers, it allowed these committeemen to go down under the vicious attacks of radicals—destructionists. Instead it organizes a movement to "oppose our enemies and defeat them"; to elect lawmakers who will see that laws are passed, making impossible any interference with the absolutism now assumed by Gompers and his like—subservient, cringing, fear-filled politicians are willing to prostitute them-

selves to please 5 per cent of the citizenship. Rule by the beloved "Proletariat" is represented by a minority of organized men. The establishment of a condition by which only union men can secure consideration—enforced unionism. Nationalization of railroads and coal mines and oil wells and telegraph and telephone service and finally, of all resources of the nation.

Unionism has served a good purpose in the general scheme of things even though it has left many blots upon the pages of its history, but when it attempts to take possession of 110,000,000 people and make laws for them, it is time for the national traffic cop to turn the semaphore to "STOP."

A DEPARTMENT OF MINES

There has never been a time so opportune for presentation to the Congress of the United States of the claim of the mining industry for enlarged recognition in the administration in the affairs of the nation.

The war created many new conditions, developed many new and valuable phases of the mining industry and proved conclusively that the nation must at all times depend for basic supplies upon the mineral, coal, and oil producers of America.

Industrially, financially, and strategically, the mining industry as a whole is the greatest collective American industry, and second in importance not even to food production.

The U. S. Bureau of Mines, as now constituted, was brought into life by the efforts of the American Mining Congress. When the bureau was created it would have been impossible to have secured the passage of a law creating a department of mines with representation in the Cabinet, but the developments of the past two years have shown the necessity to the mining industry of having an independent creative organization with powers of initiative, which could present its plans direct to the President

and have the benefit of executive action based on a complete knowledge of all facts involved, rather than a Bureau devoid of power to express itself and dependent upon the final decision of a departmental head who may not have comprehensive information of the real issues nor the time in which to become familiar therewith.

It has also been shown conclusively, we believe, that the enlarged developments of the mines of America are a requisite to the further development of peace-time commerce throughout the nation.

A movement is now on foot, fostered by eminent engineers, who we believe are thoroughly sincere in their desire, to reorganize the Department of the Interior and to establish a "Department of Works," into which department shall be transferred the Bureau of Mines and the Geological Survey.

The American Mining Congress strongly favors the establishment of such governmental agency as will coordinate the construction and public works of the Government, for there is ample reason for such organization; but we wish to call attention very positively to the fact that the transfer of the Bureau of Mines and the Geological Survey to a new department would be no improvement upon the situation as it now exists and would continue to prevent a definite expression of the needs of the mining industry in administrative affairs.

Geological investigation and metallurgical research have no special relation to river and harbor improvements, irrigation systems nor the construction of public buildings. These engineering activities of the Government should be brought into more harmonious working relations, but it does not follow that such organization shall be represented in the Cabinet because its problems are technical and do not require the application of the discretionary powers of the President. On the other hand, the development of mining presents problems extremely varied and comprehensive. The executive discretion is frequently exercised, and the

President should have the first-hand information of a confidential advisor who has practical as well as theoretical knowledge of every condition underlying the problems calling for solution.

The mining industry is strong enough to stand upon its own feet, to declare its desires in this matter and to insist upon occupying a position commensurate with the importance of the industry.

A DEFENSIVE OFFENSIVE

American employers have taken the cue from the American Federation of Labor and have begun an offensive movement against labor autocracy. The offensive is looked upon as a defensive movement and is the result of the dominating attitude of labor radicals who have sought, quite openly, to control not only men, but commercial output; who have, even in the face of common rights of citizenship, made it impossible for men, not unionites, to earn an honest living in many communities.

San Antonio business men read the story of the "Strike Against the Strike"—appearing recently in *The Saturday Evening Post*. It illustrated to them a condition under which they were suffering. They "struck" against the strike, organized the San Antonio Open Shop Association and quickly spread the movement to all large Texas cities. The new form of "strike" is taking firm foothold in the southwest.

In Seattle, that hotbed of radicalism, the situation had progressed beyond the usual problems of the union stronghold. The unions seemed to have given over their strength to the syndicalists. The red menace seemed to have fixed its clutches upon even the higher type of unionism. The "Strike Against the Strike" took on purely patriotic lines: "The Americanization of Labor" plan was born. It has lived and become an "open-shop" movement of proportions encouraging alike to employers and the loyalists in the labor ranks. It is growing and will spread to other coast cities. In Kentucky, the employer of several

hundred skilled workmen, had suffered so long from labor domination that he decided to "strike." He organized "The American Federation of Business Men," an open-shop movement intended to open the avenues of employment to every man, allow collective bargaining between a man and his employes and fight for the establishment of laws fixing responsibility under contracts between employer and organized groups of workers, union or non-union.

The publisher of the *West Virginia Mining News*, Wightman D. Roberts, has won for himself friends and enemies by his fearless policy—editorially. He checked over the experiences of his state during and before the coal strike, looked over the labor situation generally, and made a resolve: He would emancipate West Virginia from radical labor domination. He took up the Kentucky idea, started a campaign and brought the American Federation of Business Men to the front. Hereafter, Mr. Roberts will devote his time to nationalizing the organization.

These three batches of leaven are at work in the industrial dough. The average business man wants to be fair to the worker. The few who don't are being educated by the events of the last year. But the average employer is resentful of the coercive attitude of labor—so called—and of the continual threats of strikes and political domination. Conditions are ripe for a psychological movement, as represented by the three pivotal organizations described above. These movements will grow in popularity, probably combine forces and coordinate their energies upon a national basis. They will try to re-establish the constitutional right of men to work when, where and for whom they please. They will do much to bring about a fair and workable contract law.

Meantime, moving quietly and with no sound of cymbals or display of banners, The American Business Federation is, and has been, at work establishing the "open shop" and "sacredness of contract" principles among large employers

its membership. But, most significant of all is the nation-wide expression of editorial writers, reflecting the vastly predominating and rapidly growing public sentiment that the rights of the common people must hereafter be considered.

These form a combination which will probably force Mr. Gompers and his propagandists to at least divide their time and attention during the coming political campaign.

SHORT-SIGHTED MR. EDGAR

That Great Britain will never wrest control of the petroleum industry of the world from America as predicted recently by E. Mackay Edgar, head of the firm, Sterling & Co., London bankers, is seen in the recent organization of a group of powerful American financiers who have procured the oil right of millions of acres of oil land in the most promising fields of Central and South America, including Honduras, Peru, Colombia, and other Latin-American countries. Mr. Edgar, in a recent statement to the American press, stated that at the present rate of consumption, especially of high-grade product, America in ten years would be importing 500,000,000 barrels of oil yearly at an annual cost of more than a billion dollars, most of which sum would find its way into British pockets. In addition to offsetting Great Britain's efforts to gain control of the petroleum industry in South and Central America, it is understood that the possibilities of an oil shortage in this country due in a measure to salt water having appeared in some of the most prolific fields, is one of the important reasons for the formation of this group.

THE NATIONAL GRANGE AND ORGANIZED LABOR

Sherman J. Lowell, master of the National Grange, the leading agricultural organization of the country, has given notice from his headquarters in Syracuse, N. Y., that "the grange hereby notifies the world that it does not intend to be kept responding to the call, 'produce,

produce, produce,' so long as other lines adopt as their slogan, 'reduce, reduce, reduce.'"

The 44-hour week cannot support America, Mr. Lowell says, and the National Grange sees no reason why its members should work seven days a week, and long hours each day, to give cheap food to other workers of the country who insist on cutting their hours and enhancing the cost of everything. The farmer's doctrine for the reduction of living cost, he says, is that every one must actually get ready to work again, to save again, and to get back to thrift, sanity and common-sense. If food prices are to come down, he says, five definite things must be established on a working basis: More direct and cheaper distribution system; removal of artificial restrictions on sale of farm products; a longer industrial day, with honest work for honest pay; increased dividends on farm investments; increased social and educational privileges in rural communities.

GOING AND COMING

Every government has two basic functions, protection and punishment. Protection of its citizens and punishment of those who would interfere with their rights.

A citizen has no right against his government unless the government itself sees fit to recognize it. The government has clearly constituted rights against its citizens whether or no the citizen sees fit to recognize them. It is this authority that makes it a government.

When the rights of all its citizens were assailed, this Government entered the world war. In this emergency, certain things were needed—among them war minerals. Under its sovereign authority, the Government demanded this production in order to protect the rights of all its citizens. The result to a few of its citizens, the producers of war minerals, has been a severe financial punishment which has taken from many of them the savings of a lifetime; not for interfering with the rights of their fel-

low citizens, but for helping to protect them.

When Congress recognized this unjust and paradoxical situation, it passed the War Minerals Relief Act to correct it. The operation of this act up until now has aggravated the feeling of injustice among war minerals producers more than it has assuaged it.

The claimants feel, and rightfully, that the two governmental functions of protection and punishment have been unjustly reversed.

FAREWELL AND WELCOME

March 1 marked the termination of seven years in the Presidential Cabinet by Franklin Knight Lane, of California, as Secretary of the Interior. Mr. Lane, after distinguished service as head of the government department having to do with the development of our vast natural resources, voluntarily retires to private life. The MINING CONGRESS JOURNAL probably voices the opinion of a host that Secretary Lane has performed a service of the highest and most distinct type. He carries with him to private life the well wishes of friends in all walks of life and the record of an administration of the Interior Department marked by conspicuous service to the country.

Welcome is extended by THE MINING CONGRESS JOURNAL to the new head of the Interior Department, Judge John Barton Payne, a lawyer with an experience extending over a generation and a record of marked success in those governmental functions which he has hitherto exercised. A fruitful field awaits the administrative touch of Judge Payne in the land-leasing system just enacted by Congress.

TO JOHN BARTON PAYNE

You may, or may not, administer the Interior's affairs of this great nation more than a year, but time is unimportant. The country is big. You have accepted a "man's job." You are believed to be the man for the job. But there

are lots of men who know a lot of things about the United States and who have but superficial knowledge of the needs of the growing West.

We commend to your special attention the great empire which will be specifically under your administration—the Rocky Mountain West. Its early development was marvellous. Its habits of thought and action were along lines of independence. It was thoroughly self-reliant. It was to this West that Theodore Roosevelt turned for the inspiration of his life. It was this West which has always and completely responded to the nation's every call for service and production. The possibility of these responses was based upon individual incentive. The future development of the West is largely under the control and direction of the incumbent of your distinguished office.

The future development of the West must adjust itself to the restrictions of the leasing law. The West has been semi-paralyzed for several years, during which its power and fuel resources have been withdrawn from entry in anticipation of the enactment of these laws.

The West has protested and the American Mining Congress has protested the changes which are being made. It still insists that the increased centralization of power in the Federal Government is wrong in principle and that it will be found unsatisfactory in practice. Better than the stagnation of the withdrawal years will be a leasing system under federal control but better still would be the control of western development by the states; better the operation of the principle of home rule which always has been and always will be the fundamental basis of representative government. But we must face the new conditions. Federal control of the fuel and power resources of the West is an established fact. The success of the new system will depend very largely upon the method of its administration. A complete knowledge of the conditions which it undertakes to administer is essential to the best administration.

So different is the West from the Middle and Eastern States that these problems cannot be considered or adjudicated upon an eastern basis. The West in losing Mr. Lane asks you to know the West.

SECRETARY LANE COMMENTS ON NEW MINERAL LEASING LAW

Secretary Lane of the Interior Department on February 26 issued the following statement relative to the new mineral leasing law:

"Inquiries received in the department show that there is much misinformation abroad relative to the scope and effect of the mineral leasing bill which was approved by the President today. For instance, many have gained the impression that leases on proven oil lands of great value are to be had by the mere filing of an application ahead of anybody else.

"In the first place, it should be understood that the proven oil lands of the Government are largely covered by claims of various kinds that have been in litigation for some years, and which claims must be submitted for adjustment, within six months, under Secs. 18, 18a and 19 of the new law; until such claims are acted upon, none of those lands can be leased, and then only to the extent to which such claims are rejected.

"In the next place, under the act, when the Government grants a lease for either oil or coal lands, except under the relief sections or as the result of a permit, it will be by competitive bidding, of which ample notice will be given to the public.

"The only part of the act which is self-operative, and with respect to which a person can take any steps leading to the acquirement of any right, before the regulations of the department are issued or before the department has taken the necessary preliminary steps to offer the lands for lease, is that portion of Sec. 13 of the act which provides for securing a preference right for an oil prospecting permit, by posting a notice on the ground; and this applies only to lands not in the geologic structure of a producing oil field. These regulations are in the hands of the printer and will be issued immediately they are off the press. Copies may be had on request from the Commissioner of the General Land Office.

"There can be no doubt as to the very great importance of this legislature; it marks a wide departure in public policy. It opens to development and use large resources that have been virtually locked up as a result of withdrawals or inadequate laws and will offer a means of settling litigation that has been pending for years, with fairness to the litigants and the public interests."

Railroad Bill Becomes a Law

Twice within a week the President waited until the eleventh hour to sign bills. This has resulted in keeping the friends of these measures very much upon the anxious seat. The first case was that of the Mineral Land Leasing Bill and the second was that of the Railroad Bill.

The Railroad Bill, however, was signed and became a law on the last day of February.

AWARDS RECOMMENDED IN 69 WAR MINERALS CLAIMS

The status of War Minerals Relief Claims, as of February 21, is shown by the following:

Number of claims disallowed	476
Amount claimed by these 476 cases	\$2,937,830.75
Number of claims on which awards have been recommended	69
Amount claimed	\$2,183,502.94
Making total number of claims acted upon	545
Total amount claimed	\$5,121,333.69

The reasons for disallowance of the 476 claims were as follows:

No government request or demand	426
Not of commercial importance	32
Claimant suffered no loss	12
Loss through purchase of property only	2
Minerals not covered by the act	4

Total 476

German Pig Iron Production

The German pig iron production is now at the rate of about 525,000 metric tons monthly, and the production for 1919 is estimated at 6,250,000 metric tons. Production in 1917 was 13,142,241 metric tons and in 1918, 11,862,621 metric tons.—Bureau of Mines.

TO USE AEROPLANES IN MINE RESCUE WORK

To save life in mine disasters the Bureau of Mines plans to use the aeroplane. Arrangements have been made with the Army Air Service for tests this spring in Illinois and Indiana in the matter of transporting mine rescue crews and equipment to mines in which a disaster may occur.

PROBABLE DECREASE IN LIVING COSTS WAGE FACTOR

The opinion that the existing tendency is toward a gradual decline in the cost of living is expressed in a brief filed with the Bituminous Coal Commission by Ralph Crews, of the firm of Shearman & Sterling, of New York, attorney for the operators of the Central Competitive Field, in combating the contention of the United Mine Workers' representatives for an increased wage. In his brief Mr. Crews speaks of the "best thought in the country" as inclining toward the belief that the peak of high prices in commodities, due to the war, has been passed.

"The Mine Workers' representatives have undertaken to suggest that the commission should be influenced by the probability of further advances in the cost of living," says Mr. Crews in his brief. "We do not assume to be endowed with any gift of prophecy but believe that the best thought of the country at the present time indicates that the tendency of commodity prices is downward rather than upward.

"Certainly the foreign exchange situation indicates that buying for export to Europe will be materially curtailed. This is confirmed by current newspaper reports of steamers leaving eastern ports for Europe with empty cargo spaces. This condition is in marked contrast to the scarcity of cargo space which has continuously ruled during the last four years. If conditions do not permit Europe to draw on us for necessities of life in enormous quantities, it would seem to be certain that if we apply ourselves to production in a normal manner in this country, the effect of production must inevitably be lower prices.

"We are not entirely limited to prophecy as to the future. The tendency of live stock prices, as is well known, has been downward for several weeks. Only a few days ago the Minneapolis millers announced a substantial reduction in the price of flour.

"I suggest that an investigation by the commission's own representatives will indicate a recent tendency of prices downward in the matter of essential foodstuffs.

"We believe that it would be a great mistake for the commission to be influenced in its award by any thought of providing for future increases in the cost of living. We think that the suggestion is counter to the best thought in the country at the present time and to current developments definitely indicating a reduction in the cost of commodities."

Mr. Crews, in his brief, attacks assertions of the miners' representatives before the commission that the cost of living has increased from 100 to 125 per cent, and more, in mining communities. The average advance in the cost of living throughout the

country, including the mining fields, as ascertained by former Fuel Administrator Garfield, he says, was 79.8 per cent since the beginning of the war. This advance, Mr. Crews points out, was more than amply covered in the recent 14 per cent wage increase granted the miners after the strike of last November. To give a further advance to the miners, he argues, would only mean an advance in the price of coal in the market.

Urging regularity of work in all pursuits as one of the most potent factors toward solving the problem of the cost of living, Mr. Crews points out in his brief that, from data offered the commission by miners themselves, it was shown that the bituminous coal workers actually work only from 62 to 85 per cent of the days the mines are in operation.

Mr. Crews says the miner arbitrarily appropriates holidays when the mood seizes him.

"What would become of the supply of foodstuffs in this country if the farmer observed that point of view and decided that he would choose his own time for rest and recreation instead of following the laws of nature to plant his crops and harvest them at the time when nature's laws required the maximum limit of activity on his part," asks Mr. Crews.

"Data from the Bureau of Labor show that from 20 to 25 per cent of potential production, for which there is a market demand, is lost through the mental attitude of the miner."

SUGGESTS EXHIBITS OF MINING MACHINERY AND APPLIANCES

In connection with the idea advanced at the recent session of the American Institute of Mining and Metallurgical Engineers in New York, that mine exhibits be conducted the same as is done at demonstration farms in agricultural work, Dr. Van H. Manning, Director of the Bureau of Mines, said it would be very desirable to have such mine exhibits. The bureau has been trying to establish such an exhibit at Pittsburgh, but owing to limited funds only has been able to make an exhibit of safety mine lamps, safety locomotives that do not generate sparks, and safety catches. The difficulty of such exhibits would lie in the fact that there would be competition and the Government would have to put on view the best material. "There ought to be a museum or exhibit of some sort to show the latest and most up-to-date mining machinery and safety appliance machinery in connection with mining," said Director Manning.

MINERAL TARIFF BILLS TO COME BEFORE SENATE SOON, IT IS PROMISED

Definite promise that the pending tariff bills will be reported to the Senate in the very near future was made by Senator Smoot of Utah during a discussion of the dyestuffs bill. Objection had been raised by Senator Poindexter of Washington to a vote on the dyestuffs bill before the magnesite bill should be placed upon the Senate calendar. This led to a very interesting discussion on the floor of the Senate, of which the following are extracts:

Senator Poindexter. It is not necessary, Mr. President, that we should vote at the same identical time upon these bills. I realize that that so long as they are separate bills we cannot do that; but everyone is familiar more or less with what has occurred in the Committee on Finance. It is quite an unusual thing, after a subcommittee has been appointed and has had hearings and has reported a bill favorably to the full committee and the full committee has ordered a report to the Senate, that that report is withheld and, for some mysterious and unknown reason, which is not explained, the order of the committee is not carried out. I should like to know something more about that—what the influences and reasons were.

I have heard some intimation that Senators upon the committee were afraid to go before the country upon the merits of a tariff upon the articles that are covered by these bills. If that is the reason, the same reason applies to the dye bill as it does to the magnesite bill; more so, in fact, because the dye bill in effect places an embargo upon the importation of dyes, whereas the magnesite bill only places a tariff duty of a half a cent a pound upon that essential material.

Mr. President, while it has been pointed out that Germany, by reason of the terms of the peace treaty, is to deliver, as I recall, half of her production of dyestuffs to the Allies—or whatever the proportion may be—magnesite also is a product of a late enemy country. The bill which the committee has been ordered to report and which it has failed to report is intended, as is the dye bill, to protect an industry which was developed through the patriotic efforts of American citizens to supply the needs of the Government during the war.

I am told that some Americans who are interested in the production of steel have an investment in Austria, and that by reason of that fact an influence has been exerted to suppress this bill for the protection of those who have invested in the production of magnesite in the State of Washington and in the State of California. All through the

great Rocky Mountain region, in Arizona and in Nevada and other states, there are large deposits of magnesite which are capable of commercial production if they are given the reasonable amount of protection which is provided for in this bill. Our people were appealed to by the Government, when the war prevented the importation of magnesite from Austria, to produce magnesite, to develop these mines, in order that the steel industry might continue. They did so. Now that the war is over, and these gentlemen of Pennsylvania are interested from a financial standpoint in resuming the importation of magnesite from a foreign country, they seem to have forgotten the patriotic services which were rendered in the development of magnesite in this country, upon the urgent appeal of the Government, when we were in the throes of war.

We are told by Members who speak without any authority that the magnesite bill may at some future time be reported out, but we have no assurance that it will be. The fact that it has been recalled by the committee, that the report which had been ordered has been suspended, indicates that very likely some influence—probably that which is interested in the Austrian mines—is endeavoring to prevent any report at all; and I insist that before the dye bill is presented to the Senate for a vote the magnesite bill shall be put upon the calendar, at least, where it can be called up at an early date to take its chance with other tariff legislation before the Senate and before the country.

I would like to know why one is reported and the other is not reported, why this sudden change has come over the spirit of the committee. I will not go into the details at this time—I will later, if necessary—as to the reasons of the committee for reversing its own action, although not adapting the expedient of recalling a bill which they had already reported or of asking that it be recommitted to the committee, as they could do if they desired to treat all upon an equal basis. It is a most flagrant case of discrimination and favoritism. It would be different if we had any assurance that the magnesite bill would ever be reported to the Senate. I am not asking now that it be passed by the Senate; no man can control that; we would have to accept its fate, whatever it might be, upon the judgment of the Senate. But upon the judgment of the committee itself we are entitled to an opportunity to submit to the Senate that bill, in which the great states of the west are interested, in the same manner that

the manufacturers of New Jersey are granted the privilege of a vote upon the dye bill.

Mr. SMOOT, Mr. President, I will say frankly that if I had my way about it we would have an entire revision of the tariff. But the Senator knows that whenever the tariff is revised, whether it be up or whether it be down, the business interests of this country are unsettled, and what is the use of unsettling the business of this country when we know that a protective tariff bill, which will be absolutely necessary when normal conditions arrive in the world, would not be signed at the other end of this avenue, and the only reason why these bills have been passed—

Mr. POINDEXTER. Is it because they are supposed to be emergency measures?

Mr. SMOOT. It is because, as the Senator says, they are emergency measures. That is all there is to it. I thought, Mr. President, that if I knew beyond the question of a doubt that these bills could not pass the Senate of the United States, what would be the use of bringing discussion of them on the floor of the Senate? What good would it do? I say now that if I were personally interested in the production of tungsten, magnesite, or any of the other items covered by these special bills I would very much prefer not to have adverse action on the part of the Senate, because I believe that just as surely as the sun will rise tomorrow morning there will be a change in the administration at the next election. I believe that there will be a Republican President, a Republican House, and a Republican Senate, and then a tariff bill can be passed carrying a general revision of the tariff and covering all items mentioned in the special bills.

The producers of magnesite themselves have told me personally that they would rather that the magnesite bill be not reported if it could not pass the Senate. That position they have taken, and I believe it is a wise one on their part. I think it is a perfectly sensible position to take.

Mr. POINDEXTER. They are not taking that position at the present time. They are very anxious that the bill be reported out and put on the calendar.

SENATOR MOSES. I cannot understand why a differentiation has been made in the committee between the two bills, and particularly I can not understand why overnight the committee should have changed its opinion so suddenly. But I understand now that whatever the reasons leading to the sudden change on the part of the committee, whatever great light the committee saw as it journeyed toward Damascus on the tariff bill, it is not to be revealed to us, because the Senator from Utah tells us it ought not to be made known to us. I suppose we will have to be content with the absence of that information just as we have had to content

ourselves with the absence of other information we vainly asked for in the course of other discussion equally important.

NEW INTERIOR HEAD INSISTS ON ECONOMY AND EFFICIENCY

After seven years as Secretary of Interior Franklin Knight Lane, of California, retired to private life on March 1 and will be succeeded by John Barton Payne, lawyer of Chicago, lately chairman of the U. S. Shipping Board.

Judge Payne was born in Pruntytown, Va., January 1855, and admitted to the bar in 1876, practicing at Kingwood, W. Va., from 1877 to 1882. In politics he is a Democrat, having been chairman of the Democratic Committee of Preston County from 1877 to 1882. He was a special judge of the circuit court of Tucker County, W. Va., in 1880, and mayor of Kingwood in 1882.

In 1883 he moved to Chicago, where he practiced law until 1893. He was judge of the superior court of Cook County, Ill., from 1893 to 1898, when he resigned and became senior member of the firm of Winston, Payne, Strawn and Shaw, Chicago lawyers, continuing until January 1, 1918.

October 3, 1917, Judge Payne came to Washington as general counsel of the U. S. Shipping Board Emergency Fleet Corporation, serving until March, 1918. In March, 1918, he became general counsel to the Director General of Railroads, and in the summer of 1919 became member and chairman of the Shipping Board.

Judge Payne is president of the South Park Commissioners of Chicago, and was president of the Chicago Law Institute in 1889. He is a member of the following clubs: Metropolitan, Chevy Chase of Washington, Chicago Law, Chicago Golf, Caxton, Forty, Mid-Day, Wayfarers of Chicago, Bibliophile of Boston, Farquier of Warrenton, Va.

While Judge Payne has not announced the policies he will pursue as Secretary of Interior, it is expected his administration will be marked by efficiency and economy. He has just completed a reorganization of the Shipping Board which has resulted in a cut in personnel of 63 per cent and a salary reduction of 60 per cent. Prior to becoming Secretary of Interior the President referred the mineral land leasing bill to Mr. Payne for review, and in addition the new appointee has in other ways been familiarizing himself with his new duties.

Stimulates Demand for Barytes

The greatly increased use of lithopone as a base for paints, particularly for interior use, has stimulated the demand for barytes to such a degree that the supply cannot keep pace with the demand.

WAR MINERALS HEARINGS CLOSE: NEW BILL TO PROVIDE FURTHER APPEAL

Hearings on War Minerals Relief, which have been in progress for more than a month before the House Committee on Mines and Mining, have been closed. The committee is now considering the draft of a bill which provides for an appeal to the Court of Claims, in case claimants are not satisfied with the awards made by the War Minerals Relief Commission and the Secretary of the Interior. The draft of the bill now before the committee, which probably will be changed in some minor particulars before its introduction, reads as follows:

"That Section Five of the Act to provide relief in cases of contracts connected with the prosecution of the war, and for other purposes, approved March 2, 1919, be and is hereby amended by striking out the words, 'That the decision of said Secretary shall be conclusive and final, subject to the limitations hereinafter provided'; wherever they may occur in said section; and the words 'That nothing in this section shall be construed to confer jurisdiction upon any court to entertain a suit against the United States,' wherever they may occur in said section, and insert as a new section, the following:

"Section Six. That the Court of Claims is hereby given jurisdiction on petition of any individual, firm, company or corporation, to find and award fair and just compensation, adjudicate, determine and render judgment in accordance with the provision of Section Five hereof, in the event that such individual, firm, company or corporation shall not be willing to accept the adjustment, payment or compensation so offered, or paid by the Secretary of the Interior, or in the event that the said Secretary of the Interior has failed or refused, or shall fail or refuse to offer satisfactory adjustment, payment or compensation as provided for in said section.

"That whenever any claimant shall file a petition in said court, all testimony taken in the case of any claimant and all documentary evidence introduced or considered before said Secretary or any commission appointed by the authority of said Secretary, shall be certified to the Court of Claims by the said Secretary of the Interior and shall be used and considered as evidence in said claim by said Court of Claims upon the hearing and trial of such claim in said Court.

"Provided, That no payments heretofore made by the Secretary of the Interior or the acceptance thereof or any acquittance given by any claimant shall bar said claimant from the right of appeal as herein provided.

"Provided Further, That the findings and awards, and the judgment thereon in each case so determined by the Court of Claims, shall be paid upon certification by the Clerk of the Court of Claims, of the amount of such finding, to the Secretary of the Treasury from any balance of the sum of Eight Million Five Hundred Thousand Dollars hereinbefore appropriated by Section Five hereof."

TO STAGE INTERESTING MINING EXHIBITS IN DENVER

To stimulate interest in Colorado metal mining the Colorado Chapter of the American Mining Congress and the Colorado Metal Mining Association plan an exhibition in the Denver auditorium in the late summer. There will be a reproduction of an old-time mining camp, including structures such as mills, head-frames, etc., as well as the camp saloon, dance and gambling halls, etc. There will be an extensive mineral exhibit representative of the old-time mines.

In connection with the exhibit the Bureau of Mines of the Interior Department will hold a national mine rescue and first aid meet on August 20 and 21. The Rocky Mountain Coal Mining Institute will also hold its summer meeting in Denver.

Important Copper Producing Country

Peru is an important copper-producing country in which American interests have taken a strong foothold. The Cerro de Pasco Mining Co., the most important producer, had an output of 4,644,000 pounds in December, against 6,410,000 pounds for the same month in 1918. Previous to the war, copper from Peru was shipped to both the United States and England, but recently the entire product of the copper mines has been absorbed by the United States. The importance of the copper industry to Peruvian prosperity is brought out by the fact that roughly one-third of Peru's exports consist of copper. It is stated by Commerce Reports that until 1918 all prices were quoted in English money and were based on the price of "standard" copper in London; they are now more often quoted in U. S. dollars and based on the price of electrolytic copper in New York.—U. S. Bureau of Mines, Reports of Investigations.

ILLINOIS REPORT PUT OUT BY FEDERAL TRADE COMMISSION

The third report of the Federal Trade Commission's series of cost of production of coal (Report No. 3, Illinois-Bituminous) has been issued and is now available for general distribution. This report, like the others of this series, is based in part on information collected by the commission by means of its system of monthly cost reports from the coal operators, which were in effect August, 1917, to December, 1918, and in part on information collected by the commission, either through examination by its own agents of the operators' records or by means of cost reports from the operators themselves for about 90 per cent of the output of Illinois during 1918 and for about one-third of the annual output during 1916, 1917 and 1918.

Of particular interest at the present time are the following facts and comparisons, the commission points out:

1. The situation in the bituminous coal industry in Illinois during 1917-1918 bore a much closer resemblance to that in the Pennsylvania anthracite industry (Report No. 2) than to that in the Pennsylvania bituminous industry (Report No. 1). In Illinois, as in the case of Pennsylvania anthracite, the increases in sales realizations were more nearly proportional to the increases in costs.

2. In general, in the different Illinois districts, there was not such a wide difference between the margin prior to the period of governmental price-fixing and those subsequent thereto. This is in striking contrast to the reduction of the margin in the case of the Pennsylvania bituminous coal industry, particularly in the Southwestern Field, which took place subsequent to August, 1917, when the governmental price regulation went into effect.

3. Wide differences in conditions are shown to have existed between some of the Illinois districts. For example, for District No. 1, in the northern part of the state, where 76 per cent of the output came from mines which produced pick-mined coal only, there was a relatively high labor cost per ton. For District No. 6, in the southern part of the state, where only 14 per cent of the output was pick-mined coal only and over half of the output was machine-mined coal only, there was a relatively low labor cost per ton. As pointed out in the report, such differences in conditions involve differences between the districts in the amount of the margin necessary to equally profitable operation. In the one case the investment in mining machinery was relatively small, since the coal was mined chiefly by the direct application of hand-labor, resulting in a relatively high labor cost per ton. In the other case, where

the coal was mined chiefly with machines, the labor cost per ton was relatively low, but there was a relatively heavy investment in mining machinery. The margin (i. e., the difference between the sales realization and the f. o. b. mine cost) necessary to a profitable operation should be large enough to include a suitable return on the investment, and in the latter case must provide for a return on the additional investment in labor-saving machinery.

4. The report presents in detail many figures showing the proportion which the labor cost formed to the total f. o. b. mine cost (exclusive of any return to the capital invested) and the proportion which such labor costs formed of the amount received from the sale of the coal. Thus, in 1918, the labor cost in the different districts was from 75 to 80 per cent of the total f. o. b. mine cost, and was from 61 to 71 per cent of the sales realization.

Assay Commission Named

Upon the recommendation of the Secretary of the Treasury, the President appointed the following as members of the Annual Assay Commission for this year: Representative William A. Ashbrook, Ohio; J. Edward Barry, Cambridge, Mass.; John Stewart Bryan, Richmond, Va.; Col. Richard Burgess, El Paso, Tex.; Senator Arthur Capper, Kans.; George H. Dern, Salt Lake, Utah; Mrs. Kellogg Fairbanks, Chicago, Ill.; Louis Fischer, Washington, D. C.; T. V. Gregory, Emlenton, Pa.; Dr. J. M. Henderson, Columbus, Ohio; Dr. A. R. Johnson, Reevesville, S. C.; Sedgwick Kistler, Lock Haven, Pa.; Mrs. B. B. Munford, Richmond, Va.; Joseph H. O'Neil, Boston, Mass.; Representative John M. Rose, Pennsylvania; Harry Scheeline, Reno, Nev.; Till Taylor, Pendleton, Ore.; Samuel W. Traylor, Allentown, Pa.; R. A. Underwood, Plainview, Tex.; Garland E. Vaughan, Lynchburg, Va.; Representative Albert H. Vestal, Indiana; N. B. Wescott, Onley, Va.; Charles E. Wright, Montpelier, Idaho; The Comptroller of the Currency; The Judge of the District Court for the Eastern District of Pennsylvania; The Assayer, U. S. Assay Office, New York.

The commission met in Philadelphia February 11, 1920, and tested the weight and fineness of the coins reserved by the several mints of the United States during the calendar year 1919. At all of the mints, out of every delivery coming to the Treasury, a certain number of pieces are taken and forwarded under seal to the Philadelphia Mint for examination by the Annual Assay Commission, in order to secure a due conformity to their representative standards of fineness and weight. This is in accordance with Section 3547 of the Revised Statutes.

OPERATORS MAKE COMPREHENSIVE SUMMING UP OF COAL EVIDENCE

With an emphatic summing up of the operators' position by their representatives, the Coal Commission appointed by President Wilson to inquire into the bituminous coal industry has concluded its hearings on the Central Competitive Field, embracing western Pennsylvania, Ohio, Indiana, and Illinois, which produce nearly two-thirds of the bituminous coal mined. The commission then turned to the outlying fields.

The logical trend of the evidence and the points in favor of the position of the operators were brought out by Attorney Ralph Crews of New York, Phil H. Penna, head of the Indiana operators; C. E. Maurer for Ohio; Tracy L. Guthrie for the Pittsburgh fields and Dr. F. C. Honnold for Illinois. C. E. Leshner, who was statistical expert of the United States Geological Survey, vouched for the impartial, authentic and representative character of the new figures on earnings and time lost by the miners on their own account during the ten months of 1919 preceding the strike.

OPERATORS' PROFITS OBLITERATED

Jean Paul Muller, a Washington attorney and statistical expert, produced data on the effect of the recent 14 per cent wage advance of the mine operators, showing that in most instances their profits had been entirely wiped out.

The miners' side was summed up by Acting President John L. Lewis and Secretary William Green of the United Mine Workers of America, who reiterated the demands for a 60 per cent wage increase, the 6-hour day and 5-day week, as formulated before the miners went on strike on November 1. They argued that the miner must have an increased wage to meet the advanced cost in living and that shorter hours and a lessened working week were essential.

As against this the operators maintained that the miner already can earn a wage much more than enough to meet the increased cost of living if he is disposed to work the full time open to him. They emphasized the point as developed from the mine records that many of the miners fail to work from 15 to 50 per cent of the time the mines are running.

TWO TYPES OF MINER

In his summing up, Mr. Crews stressed the point that the hearings had developed that the miners and the operators had been talking about two different classes of men.

"The mine workers have cited the 'average miner' but the operators have been cal-

culating upon the 'efficient miner,'" said Mr. Crews. "It is on what the 'efficient miner' can produce that earnings, hours, and prices must be reckoned."

DO NOT NEED ADVANCE

"The big thing that the 1919 figures show is the potentiality of the earning power of the miner. If the miners will abandon their practice of 'broken time' and work up to the maximum running time of the mines, they will not only need no raise in wages, but they can greatly increase their earnings on the basis of the wage scale as it stood before the 14 per cent advance."

Another outstanding point emphasized by Mr. Crews was that the 14 per cent wage increase which the industry has been compelled to assume meant wiping out the profit of the operators. The experience of the operators, he said, had confirmed the forecasts that the industry could not absorb this advance. He urged that, should the commission decide not to remove it, justice required a compensating adjustment in prices to give the operators a reasonable return upon their investments.

WOULD OPERATE NON-UNION MINE

"Our contracts now are mere scraps of paper as far as observance by the miners goes," said Mr. Penna.

After thirty-three years of experience in collective bargaining, Mr. Penna said, he had reached the conclusion that if it were in his power to operate non-union mines instead of union mines he would do so. "The mine workers' representatives have become special pleaders for the violation of contracts," said Mr. Penna. "This commission should make agreements enforceable or make no contract at all."

ARRAIGNS THE "SLACKER"

Following up a demand for the abolition of the "check-off" system, which produces \$15,000,000 for the United Mine Workers organization, Mr. Penna arraigned the "slacker" type of miner, saying that this class of miner was seeking to influence the entire mining industry. "Let us face the facts without camouflage," said Mr. Penna. "Reduced to the last analysis, the demands of the miners are: 'More money for less work.'"

That mining hazards have been greatly exaggerated and that the mining industry is one of the most healthy occupations was set forth by Tracy L. Guthrie of the Pittsburgh district. Mr. Guthrie submitted re-

ports and data from insurance commissioners, physicians and other authorities in proof of his statements.

FIFTY PER CENT OF IDLENESS

Dr. F. C. Honnold, of the Illinois operators, presented data for 42 mines in Illinois showing that 60 per cent of the mines employed 87 per cent of the men and furnished 92 per cent of the coal mined. His figures showed that approximately one-half of the men worked less than 50 per cent of the time, and that the average earnings per day of the steady, industrious miner were greater than the average day's earnings of the miner who laid off frequently.

Demands of the operators touching the basic points in the controversy were incorporated in the records of the commission. The operators urged the commission to exert its efforts to bring about legislation to require miners' organizations that make contracts with their employers to live up to the contracts. The demands of the operators are as follows:

DEMANDS OF THE SCALE COMMITTEE

No. 1. The present system of collecting dues and initiation fees from the mine workers, and enforcing the payment thereof by deductions from their earnings through the offices of the operators, imposes burdens upon the operators for which there is no economic justification, and is unjust to many employees of the operators. The operators, therefore, request that the practice be abolished.

No. 2. As the house rent charged the mine workers and the price charged them for their domestic coal have been written into the contracts in some of the states, and the adjustment of these charges, from time to time, is the cause of much dissension, we request that the commission, in its findings, fix an equitable method of dealing with these matters.

No. 3. The operators request that the commission recommend to the Congress of the United States the enactment of legislation requiring associations of employees which make contracts of employment with employers to take such action as will make them legally responsible for the fulfillment of the contracts so entered into.

No. 4. The operators request that the national officers of the United Mine Workers of America and the national organization, being parties to the making of the contract, be required to assume responsibility for enforcing the terms of such contract in the various districts, notwithstanding the present limitations in the Constitution of the United Mine Workers of America.

No. 5. As a matter of safety to employees and as there is now no system by which the actual working time of the mine work-

ers can be determined, the operators request that the contract shall provide that time clocks or time devices may be installed at mines and that the miners and inside day men be required to register when they enter or leave the mines, and that the outside day force be required to register when they arrive at or leave the mine. All men refusing to comply with such requirements to be subject to discharge.

No. 6. The operators request that the commission, in its award, provide for the introduction of devices or machinery which may serve to reduce the cost of coal and consequently the cost to the public, and for which there is no scale of wages in the then existing contract.

FAILURE TO WORK FULL TIME

The relative merits of the contentions of the miners and operators as to the actual earnings of the miners, and the far-reaching effect of the failure of a large proportion of individual miners to work the full time available, were put in an entirely new light by the data submitted to the commission for the operators by Attorney Crews of New York when the commission resumed its hearings Monday morning, February 2.

The figures were new, taken from the mine records, and giving for the first time the fundamental statistical facts of the coal industry for the ten months' period from January to October, 1919. The trend of the data was that during these ten months previous to the strike the miners made appreciably more than the "decent living wage" which their representatives have urged they were unable to make.

NO HAND-PICKED FIGURES

It was made clear by Mr. Crews that the data were taken impartially from the mine records in such a way as to give actually representative figures and not "hand-picked" figures such as would arbitrarily make out a favorable case for the operators. This was borne out by Mr. Leshner's statement that the mine managers had been directed to select the mines with reference to character, both industrial and fuel, to divide up the fields so reports would be given of mines with the poorest running time as well as the best and so that car supply should likewise be taken into consideration.

"All the men on the payroll of the mine designated are here," said Mr. Leshner in reference to the new data. "There is no selection of men within a mine. Every man that is on the payroll in a month is on those records. The mines were selected to get 15 per cent of the total men in the field by selecting approximately 15 per cent of the mines, medium, large, and small."

DAYS THEY DID NOT WORK

Summarizing figures showing the result of operations of pick miners in Pittsburgh thick-vein district for the month of October, 1919, Mr. Crews said:

"The payrolls show that 17 men, or 6.39 per cent, of the total number of men worked less than 25 per cent of the time.

"Twenty-four men, or 9.02 per cent of the total, worked between 25 per cent and 50 per cent of the days.

"Thirty-five men, or 13.16 per cent, worked between 50 per cent and 75 per cent of the days.

"In all, there were 190 men, constituting 71.43 per cent of the total working forces who did not work more than three-fourths of the time."

HOW ADVANCE OPERATES

Evidence sustaining the situation of the operators in respect to the effect of the 14 per cent advance was presented by Attorney Jean Paul Muller, expert accountant of Washington, D. C. Mr. Muller stated that the financial exhibits dealing with production, costs, and realization on investments were compiled from summary reports for the first ten months of 1919 of the Pittsburgh Coal Producers Association, the Pittsburgh Vein Operators Association of Ohio, the Southern Ohio Coal Exchange, the Indiana Coal Operators Association, and the Central Illinois Coal Bureau. These reports showed returns from mines having an output during the ten months specified in excess of 48,000,000 tons.

"If we look upon the ten months ended October 31, 1919, as the basis for the present," said Mr. Muller, "we find that the Pittsburgh Coal Producers Association reports net tons of coal produced 22,127,736 at a total labor cost of \$29,997,749.79, while the margin—that is, the amount left over after all the standard costs of producing the coal at the mouth of the mine were deducted from the sum total realized from the sale of the coal—was \$5,784,852.64.

A MARGIN OF ONE PER CENT

"At 6 per cent per annum on a capital charge for investment in property amounting to 6.30 per ton produced, the compensation for capital investment required would be \$8,364,284.21, so that the margin on coal represented a little over 4 per cent, while under the present labor scale involving an increase in the labor costs of 14 per cent, on the same tonnage produced, this increase will absorb \$4,199,684.97, out of the margin of \$5,784,852.64, leaving the compensation for capital investment approximately 1 per cent.

"The Pittsburgh Vein Operators Association of Ohio, on a production of 5,353,494 tons, shows a labor cost of \$6,900,605.30,

with a margin of \$1,239,323.40. If the 14 per cent increase in labor cost, amounting to \$966,084.74, is deducted therefrom, the compensation for capital invested is less than 1 per cent.

WOULD LOWER YEARLY OUTPUT

Figures supporting the contention of the operators of the Freeport, Pennsylvania, district, that the 6-hour day asked for by the miners would result in lowering the yearly output more than 7,000,000 tons, or 26 per cent, were submitted by Don Rose, Attorney of Pittsburgh, in answer to points raised by Philip Murray, president of the United Mine Workers of the Pittsburgh district. Mr. Rose also produced data showing that there was a difference of 21 inches in thickness between the thick and the thin-vein seams of the Freeport district to offset the statement of Mr. Murray that there was little, if any, difference between the two seams. Mr. Rose contended that, under the existing differential rate, there was a slight difference favoring the potential earning power of the thick-vein miner, and that if the differential were removed it would be distinctly unfavorable to the thin-vein miner.

"The miners themselves at this time prefer to work in the thick-vein mines when their running time is equal to that of the thin-vein ones," said Mr. Rose.

LARGE INCREASES IN WAGES

That there have been large increases in the actual amounts of money paid to miners in Ohio was shown in exhibits presented by C. E. Maurer for the Ohio operators.

AN ATTRACTIVE INDUSTRY

That coal mining, under present conditions, must be attractive to labor, was evident, Dr. Honnold said, from figures he offered from the State Examining Board for Miners of Illinois, showing that it had granted 865 new licenses for qualified miners in the last two months.

"Would that number of men have been attracted to the industry if the wages were poor?" he asked.

Dr. Honnold pointed out that coal mining is the only industry where men could work or lay off when and as they pleased and still hold their jobs.

AVERAGE WAGE

A summary of figures was then presented by Dr. Honnold, analyzing the data. It revealed that the average actual payment rate per day, applying to every employe, from the lowest paid trapper boy to the highest paid machine miner, including all day labor men above and below ground, was \$6.00 per day for the period between January 1 and October 31, 1919, before the 14 per cent wage increase was granted.

These figures showed that the lowest wage paid the trapper boy was \$4.36 per day, the average running up to as high as \$15 and \$18 a day for machine runners who undercut the coal.

No other industry, Dr. Honnold said, could make such an average showing as that revealed from the records put before the coal commission.

ACTUAL PROFITS OF OPERATORS

In his summing up, Mr. Penna, for the Indiana operators, submitted figures of the operators of that state for 1919, to show that undue profits had not been made. The net profits in cents per ton were 14.61 cents in January, 13.11 in February, 18.33 in March, 14.27 in April, 0.24 in May, 7.61 in June, 5.46 in August, 19.13 in September, 44.11 in October, nothing in November due to the strike, and 5.94 in December.

Mr. Penna attacked the miners' figures on the average of earnings which took in every man in the industry regardless of how many days he worked.

Barytes Industry Wants Tariff

Despite the increase in demand and the present healthy condition of the barytes industry, foreign competition is feared and the producers have joined forces to seek tariff protection. An association known as "The Barium Producers and Manufacturers of the United States" was formed in December with Maximilian Toch as president. A tariff bill, introduced into the House of Representatives by Congressman Rhodes, and referred to the Committee on Ways and Means, provides for an import duty of \$10 per ton on crude and manufactured barytes; on manufactured barytes or barium sulphate, \$15 per ton; on barium carbonate \$20 per ton; on barium binoxide, barium chloride and every other barium compound, \$20 per ton. At the request of the Ways and Means Committee the Tariff Commission has held several hearings of barytes producers and manufacturers of barium products in New York, Washington and St. Louis, in order to prepare information upon which a suitable rate of tariff may be based. The commission is investigating the cost of mining and manufacturing of barytes and barium products, including lithopone, in order to supply this committee with complete and authentic information—Bureau of Mines.

Pig Iron in Finland

The output of pig iron in Finland in the three years preceding 1915 amounted approximately to 35,000 tons annually. About the same amount is imported. Production comes from 15 blast furnaces, 11 in eastern and 4 in western Finland. Bureau of Mines.

FAY LEAVES U. S. SERVICE FOR PRIVATE EMPLOYMENT

A. H. Fay, a mining engineer and geologist who has been in the service of the Bureau of Mines for the past ten years, has resigned to enter private employment. That Mr. Fay has added greatly to the cause of safety in mining and to the sum total of mining knowledge may be inferred from the following list of his publications:

1911-1918. 8 annual reports (as technical papers), "Accidents at Metal Mines, U. S."

1911-1918. 8 annual reports (as technical papers), "Accidents at Quarries, U. S."

1913-1918. 6 annual reports (as technical papers), "Accidents at Metallurgical Plants in U. S."

1913-1918. 6 annual reports (as technical paper), "Accidents at Coke Ovens, U. S."

1912-1918. 7 annual reports (as technical papers), "Production and Distribution of Explosives in U. S., by States and Industrial Uses."

1870-1914. Coal mine accidents in U. S., classified by causes and states, compiled from State Mine Inspector's reports. A Bulletin (No. 115) comprising 370 pages.

1913-1919. 7 annual reports, "Coal Mine Mines."

More Rigid Methods Urged

The attention of mica producers in the United States is directed to the fact that domestic mica is unpopular with many consumers, and one of the outstanding reasons given is likewise lack of careful preparation. Most users of sheet mica in the United States prefer India mica, but it has been demonstrated by some of the more important users of mica in the country that the inherent qualities of domestic mica for electrical purposes are equal to those of India mica, the preference for India mica being attributable largely to the poor trimming and grading of the domestic product. Apparently, therefore, one of the most important problems mica producers both in Canada and the United States are now facing is the development of more uniform and rigid methods of trimming and grading the mica as it comes from the mines—Bureau of Mines.

Burning of Fuller's Earth

All fuller's earth is hygroscopic, that is, it absorbs moisture from the air. During the first burning it is essential to get rid of this absorbed moisture and also the chemically combined water. The quantity of water varies from 10 to 15 per cent, and this must be expelled before the earth goes to the filter. Organic and volatile salts are also expelled during the first burning, and calcium carbonate is converted to caustic lime. Bureau of Mines' Minerals Investigations.

FLUCTUATION IN COAL PRODUCTION—ITS CAUSES

Wide publicity has been given to the paper presented at the American Institute of Mining and Metallurgical Engineers in New York, on February 17, by George Otis Smith and F. G. Tryon, on "Fluctuations in Coal Production—Their Extent and Causes." The paper attracted a great deal of attention but, due to its prior publication in many other journals, only the abstract is presented here:

"The 'bad load factor' of the soft coal mines of the country shows itself in the annual, seasonal, and daily fluctuations in coal production. On the average, during the past thirty years the mines have been idle 93 working days in the year. General business conditions cause annual fluctuations of about 15 days in the lost time of the mines, but the remaining 78 days are lost because of fluctuations in car and labor supply, but mostly the summer slump in demand. At best, the difference between winter and summer buying of coal makes inevitable a period in which the capital and labor engaged in coal mining cannot work more than 30 hours out of the 48 hours. The 30-hour week is the spring ailment of the bituminous coal industry, not its cure.

"These statements of lost time are weighted averages for the whole country, the irregularities in opportunity to work are less in some favored districts and far greater in the central competitive field, and the individual miner is affected more by local fluctuations than by any average for the United States. It is significant that there is a rough relation between the loss of working time and the degree of unionization. The operator also loses by the idle days of his mine and in the end the consumer pays the bill for idleness of both miner and mine.

"The loss to the railroad from seasonal fluctuations in coal mining is large, the investment in coal mines, and coal makes up one-third of the freight tonnage. The summer slump therefore means idle equipment for the railroads. Improving the load factor of both mines and railroads means encouraging summer buying of coal, and for this (seasonal discounts in price and in freight rates have been suggested, and the basal problem is coal storage; to what extent can it be made practicable and to what extent attractive to the consumer?

"The national interest in bettering the load factor of the soft coal industry is measured by the fact that we have an excess mine capacity of at least 150 million tons and an excess labor force of perhaps 150,000 men. In terms of man-days, universal military training of our young men for three months would cost the nation less than the present enforced idleness in coal mining."

COMMITTEES TO ACT ON GAS CONSERVATION MATTERS

The National Committee on Natural Gas Conservation met at the Bureau of Mines on February 23 and appointed three sub-committees to draft recommendations to meet the situation and report to the full committee on March 27. These committees will take up the questions concerning the production, transportation and utilization of natural gas. The hope is to devise methods of preventing waste of natural gas. The committees appointed are as follows:

Production: W. L. McCloy, Philadelphia, chairman; Dr. Q. C. White, State Geologist of West Virginia; John B. Corrin, Hope Natural Gas Co.; Arthur L. Walker, chairman, Corporation Commission of Oklahoma.

Transportation: L. B. Denning, Lone Star Gas Co., chairman; G. W. Wozencraft, Mayor of Dallas, Tex.; Samuel S. Wyer, consulting engineer.

Utilization: J. C. McDowell, Empire Gas and Fuel Co., New York, chairman; John S. Rilling, Public Service Commission of Pennsylvania; Samuel S. Wyer, consulting engineer; Miss Edna M. White, American Home Economics Association.

In an address to the conference Director Manning of the Bureau of Mines decried flagrant waste in the gas resources and pledged the assistance of the bureau in cooperating to check it, but recommended that general problems and not specific cases be considered.

New Jeffrey Catalog Out

The Jeffrey Manufacturing Co. has just issued a new catalog, No. 269, featuring the Jeffrey 34-B Entry Driver (licensed under the patents of E. C. Morgan).

The 34-B Machine has been in daily use for the past three years, and has been tested out in the following coal fields: The Sewell Seam, Beckley Seam and No. 2 Gas Seam of West Virginia; Pocahontas Seams, Virginia; No. 6 Seam, Illinois; Pittsburgh Seam, Pennsylvania.

The 34-B Entry Driver mines and loads coal without the use of explosives, can be used to advantage under poor roof, can be used for knocking down and gobbing draw slate, will cut break throughs, and is equally adaptable for use in entry and room work.

This machine will, under fair conditions, drive entries about four to six times as fast as is ordinarily done. A property that with the present system takes years to develop can be opened up in a short time by the use of these mining and loading machines. The mine workings can be concentrated and the output obtained from a small territory.

APPLICATION OF PRICE

ADVANCE PERPLEXING QUESTION

How any advance in the price of coal may be applied, if there is to be an increase of miners' wages, as an outcome of the hearings before the Bituminous Coal Commission appointed by the President, has become one of the perplexing phases of the commission's inquiry.

While the commission has not indicated that there is to be any advance in wages beyond the 14 per cent given the miners in December, or even that the 14 per cent advance is to remain, the coal operators have insisted that, even if the 14 per cent advance stands, something must be done to enable them to meet it.

Briefs filed with the commission by representatives of public utilities corporations in the middle west and east emphasize the point that the "general understanding" has been that the 14 per cent advance was to have been entirely absorbed by the operators, so that no rise in the price of coal, due to the increase in miners wages, would fall upon the public.

George W. Elliott, of Washington, D. C., representing the National Committee on Gas and Electric Service, has stressed the point that if there is any increase in wages, resulting in a higher price in coal to utilities corporations, the public will have to pay for it.

In their arguments before the commission the public utilities representatives from New York, Boston, Philadelphia and Indianapolis have stated that investigation develops that the 14 per cent wage advance has been passed on to the public by the coal operators on contracts entered into before the strike, which began on November 1. These contracts carried a provision, Mr. Elliott explained, that any increase in the cost of labor would be met by an increase in the price of coal. Approximately 85 per cent of the coal output since the 14 per cent advance went into effect, he said, had been sold under these contracts, the price being increased to cover it. Only on the remaining 15 per cent of the coal consumed, he said, was the 14 per cent absorbed by the operators.

Attorney General Palmer was quoted by Mr. Elliott as justifying the action of the coal operators in applying the 14 per cent advance on coal delivered under contracts entered into prior to November 1. The Attorney General maintained that the matter of putting the 14 per cent advance on the contract price of coal was entirely between the contracting parties.

Chairman Robinson has indicated that the question of how the 14 per cent ought to be applied is seriously engaging the commission, and that it will endeavor to arrive at some adjustment that will be satisfactory.

The problem of the inability of coal operators to get an adequate supply of cars by which coal can be run to the markets has become another serious point of inquiry by the commission. Failure of the operators to get enough cars to ship coal has been argued by the operators as being one of the potent factors in the high cost of production of coal. While obliged to run the mines and keep up with the public demand for coal, the operators have pointed out that this necessitates keeping heavy forces at work, and large quantities of coal have been banked up at the mines with no way to get it to the public.

Through figures submitted by operators representing the Central Competitive Field, which embraces two-thirds of the bituminous industry, it has been shown that the full-time output of the mines has suffered greatly on account of car shortage. The percentage of output of coal that could not be sent to the market because of this car shortage was shown before the commission as follows:

Per Cent.

For Western Pennsylvania.....	24.7
For Ohio, Southern Field.....	32
For Pittsburgh, No. 8 Dist.....	38.2
For Illinois	26.8
For Indiana	25.7

The average of output lost on account of car shortage since the week of January 17 has greatly increased, the operators have shown, in the different fields.

Chairman Robinson has asked for complete figures as to the effect of the car shortage upon the output of the mines and upon the irregularity of employment of the miners. In this connection Mr. Robinson has asked representatives of the public utilities corporations to submit their opinion on a proposal for storing coal during the summer months, so that it may be available during the periods when there is the heaviest demand.

Get Committee Assignments

To fill vacancies on House Committees the following appointments have been made: Representative Henry Winfield Watson, 8th District of Pennsylvania, to the Committee on Ways and Means. Mr. Watson is a Republican, represents Bucks and Montgomery Counties; is a lawyer and has been in Congress four years. Representative Evan J. Jones, 21st District of Pennsylvania, to the Committee on Interstate and Foreign Commerce. Mr. Jones is a Republican, represents Cameron, Center, Clearfield and McKean Counties; is from Bradford, Pa.; was born in 1872 and is a lawyer. He is serving his first term.



The month of February has been a very strenuous one for Members of Congress. Perhaps one of the most severely fought pieces of legislation ever presented to Congress is the Leasing Bill, which has passed the House and Senate and which was signed by President Wilson on February 25. The law will now be administered by the General Land Office under the Secretary of the Interior. This bill is the only one, aside from the Railroad bill, of importance to the mining industry, which received final action during the month. The committees, however, have been busy on the tariff measures.

The dyestuffs bill was reported to the Senate February 15 and already has been discussed on the floor of the Senate. The Senate Finance Committee has been devoting its attention to the measures for tariff on magnesite, tungsten, zinc, etc., and it is now believed that these bills, which have been reported favorably from the subcommittee to the general committee, will receive the endorsement of the general committee and be presented to the Senate at a very early date.

Much interest has centered around the hearings which have been held during the month before the House Mines and Mining Committee on the Garland Resolution H. R. 170, providing for the liberalization of the War Minerals Act. A general résumé of these hearings will be found in another part of the JOURNAL. The following bills of importance have been introduced since our last issue:

Revenue

H. R. 12397 (Excise Tax). Introduced by Mr. Nolan, referred to the Committee on Ways and Means. Section two of the bill provides that all persons, firms, associations and corporations owning land in value in excess of \$10,000, whether in possession or leased to others, shall be subject to an excise tax upon the privilege of the use and enjoyment of such excess at the rate of one per cent. Where land is leased and the value of the lease is in excess of \$10,000, such value may be deducted from consideration in determining the tax to be assessed against the owner, and shall be charged

against the lessee. Where the land is held in common or by entireties, or in joint tenancies or subject to estates of dower or life estates or otherwise, so that the ownerships make up the complete legal title and entire ownership has a value in excess of \$10,000, then the several owners shall pay an excise tax based upon their proportionate share in the ownership. The owner of the land is required to file with the Commissioner of Internal Revenue a report showing the tracts in which an interest is held, nature and extent of interest, price paid by taxpayer, or if he received the same by gift or inheritance, the amount paid by his predecessor in interest for the entire tract; offers received by the taxpayer for any parcel of such land or interest therein within the two previous years; price at which taxpayer within such period has offered land or any part thereof for sale; value of improvements upon the land and value upon which the improvements have been reckoned in any offer of sale; amount spent for making improvements; net price at which the owner is willing to sell the land with or without improvements; assessed value of land on the tax books. This information must be filed with the Commissioner not later than December 31. A fine of 5 per cent and an additional payment of 1 per cent for each month is imposed upon delinquent taxes. The Internal Revenue Department is authorized to make all rules and regulations necessary.

S. J. Res. 157 (Computation Excess Profits Tax). Introduced by Mr. King, referred to the Committee on Finance. This Resolution provides for the method by which war-profits and excess profits tax imposed by title three of the Revenue Bill shall be computed for the calendar year of 1919. The Commissioner of Internal Revenue shall ascertain from returns on file in his office if the corporation income tax of each corporation for the calendar years of 1911, 1912 and 1913, the average ratio of annual taxable income to the annual deductions or expenditures which have been deducted from the gross income of each taxable

corporation to ascertain its taxable income in each of said years; and having ascertained the average ratio, which shall be called the normal ratio of earnings to expenditures, shall apply the ratio to the expenditures or deductions returned by such taxable corporation for the year 1919, and shall thereby compute the war-profits credit and excess-profits credit, which shall be deducted from the total taxable income or profits of such corporation for the calendar year 1919. There shall be levied, collected, and paid upon war and excess profits for the calendar year 1919, a tax equal to 40 per cent of such war and excess profits. Section two provides that in the case of any taxable corporation which did not make a return to the Commissioner of Internal Revenue for the prewar period comprising the calendar years 1911, 1912, and 1913, the Commissioner shall fix the normal ratio of earnings to expenditures for such corporation according to the fair average ratio of earnings to expenditures of other corporations conducting the same general business, in the same general markets, and having the same general annual volume of expenditures in the prewar period, as the corporation for which such ratio is to be fixed, and having fixed such ratio the Commissioner shall ascertain the war and excess profits for such corporation and shall compute thereon the war-profits and excess-profits tax provided in section one of the resolution. In cases of pending controversies or disputes with respect to settlement of the taxes imposed for the calendar year 1918 by Section 301 of the Revenue Act, the Commissioner, with the consent of the Secretary of the Treasury, may, in his discretion, agree with the corporation party to such dispute that the taxable war profits and excess profits shall be ascertained as provided in the resolution for the ascertainment of taxable war profits and excess profits for the calendar year 1919, and that upon the amount so ascertained the war-profits and excess-profits tax for the year 1918 shall be computed at the rate of 65 per cent in lieu of the rate prescribed in the Act. The resolution shall take effect upon the day following its passage.

Labor

H. R. 12320 (Suspending Immigration). Introduced by Mr. Johnson, referred to the Committee on Immigration and Naturalization. Section two of the bill provides that from fifteen days after the passage of the Act until the expiration of two years, the immigration of aliens to the United States is prohibited, and during such time it shall not be lawful for any alien to come from any foreign port or place, or, having so come, to remain within the United States. This section, however, does not apply to

otherwise admissible aliens lawfully resident in the United States, nor to otherwise admissible aliens who are Government officials, travelers for pleasure, ministers or religious teachers, missionaries, lawyers, authors, chemists, civil engineers, artists, teachers, and physicians who may enter the United States during the time of the suspension of immigration for periods not exceeding six months. Students may enter the United States solely for the purpose of study and upon completion they shall not be entitled to remain in the United States. These exceptions to section two shall be permitted to enter the United States only upon presentation of a valid passport or other official document in the nature of a passport satisfactorily establishing his identity, nationality, etc. Section eight of the bill provides that after the termination of the period of suspension provided for in section two no otherwise admissible alien shall be permitted to enter the United States except in one of the two following manners: First, under the passport system provided for in section three of the bill, and Second, upon filing with the immigration authorities at the port of entry, in addition to all other documents now required by law, an admission statement, which shall be on a blank printed in English and in a foreign language, and which shall contain the following statements: That he is coming to the United States for the bona fide purpose of becoming a citizen thereof; that he will, at the earliest possible moment, learn the English language and become acquainted with the form of government and the institutions of this country, and that he will obey the laws thereof; that he will register once each year until he becomes a citizen with the county clerk of the county wherein he may reside; that he understands and agrees that he may be deported if he fails to register or to take the necessary steps to become a citizen of the United States. It is provided in the bill that the Secretary of Labor shall in April of each year determine the maximum number of aliens of each nationality, to be admitted during the fiscal year next following, having regard to the labor conditions in the United States and the maintenance of American standards of living and wages.

H. R. 12261 (Right of Franchise). Introduced by Mr. Hickey, referred to the Committee on Immigration and Naturalization, amends paragraph 10 of section 4 of the Act establishing a Bureau of Immigration and Naturalization by providing that any alien, who is a native citizen and is now residing in the United States and has resided here for a period of five years and has made his declaration to become a citizen of the United States prior to the 3d day of February, 1917, and is entitled to the right

of franchise by virtue of the constitution of the state of his residence, after making his declaration of intention to become a citizen, shall be entitled to be naturalized as a citizen of the United States without making a further declaration of intention by complying with all provisions of the naturalization laws and by filing his petition with a court of competent jurisdiction. All parts of the law in conflict herewith are repealed.

H. R. 12487 (Suspending Immigration). Introduced by Mr. Steagall and referred to the Committee on Immigration and Naturalization. The bill provides that from the passage of the Act until January 1, 1930, the immigration of any aliens to the United States is prohibited. The bill exempts officials of foreign governments, their families, professional actors, singers, nurses, professors or students of colleges, travelers for pleasure or business, etc., makes provision also for an alien, who has heretofore been legally admitted, to bring in his wife or relatives. The duty of enforcing the act is placed with the Secretary of Labor.

S. 3849 (Vocational Rehabilitation). Introduced by Mr. Sherman, referred to the Committee on Education and Labor. This bill amends the Act approved June 27, 1918, providing for vocational rehabilitation for disabled persons discharged from the military or naval forces. Section two of the bill provides that every person enlisted or appointed in the military or naval forces of the United States, including members of training camps authorized by law, who since April 7 has resigned or been discharged or furloughed therefrom under honorable conditions, having a disability incurred, increased, or aggravated while a member of such forces, or later developing a disability traceable to service with such forces, who, in the opinion of the Federal Board for Vocational Education, is in need of vocational rehabilitation to overcome the handicap of such disability, shall be furnished by the board such course of vocational rehabilitation as the board shall prescribe. The board shall have the power to furnish persons included in this section suitable courses of vocational rehabilitation, and every person who shall take such a course shall be paid monthly such sum as in the judgment of the board is necessary for his maintenance and support, and the maintenance and support of persons dependent upon him. The amount paid him, however, is limited to \$100 per month for a single man without dependents, or for a man with dependents \$120 per month plus the several sums prescribed as family allowances under section 204 of Article 11 of the War Risk Insurance Act.

S. 3864 (Instruction to Immigrants). Introduced by Mr. King, referred to the Committee on Immigration, amending the naturalization Laws. The bill provides for the promotion of the public schools in the instruction of candidates for citizenship now being carried on by the Division of Citizenship Training of the Bureau of Naturalization by extending it to include all persons of sixteen years and upward who shall attend classes of instruction conducted or maintained by any civic, educational, community, racial, or other organization under supervision of the public-school authorities. In discharging this additional authority the Director of Citizenship is authorized to disseminate information regarding the institutions of the United States Government in such manner as will best stimulate loyalty to those institutions, making use of pictures, slides, and motion pictures. The bill appropriates the sum of \$300,000 to carry out the provisions of the Act.

H. R. 12679 (Women's Bureau). Introduced by Mr. Campbell, referred to the Committee on Labor. The bill provides for the establishment of a bureau within the Labor Department to be known as the Women's Bureau, which shall formulate standards and policies to promote the welfare of wage-earning women, improve their working conditions, increase their efficiency and advance their opportunities for profitable employment.

H. Con. Res. 50 (Capital and Labor). Introduced by Mr. Tinkham, referred to the Committee on the Judiciary, providing as follows:

"Whereas boards and commissions have been, and are from time to time established by the Congress and appointed to deal with the problems of labor and capital and to investigate industrial relations and prepare suitable recommendations as to legislation; and

"Whereas these bodies commonly comprise equal representation of the opposing industrial interests and of the general public interest; and

"Whereas the public representation, although intended to have the deciding vote, usually finds itself obliged to concur in agreements reached by the representatives of labor and capital; Therefore be it

Resolved, By the House of Representatives (the Senate concurring), That a clear majority of each board or commission which may hereafter be constituted for purposes of either regulation, inquiry, or counsel concerning the relations of labor and capital and any aspect of industrial relations shall be composed of the representatives of the paramount public interest; and that no public moneys shall be appropriated for the

maintenance of any body intended to be concerned with the problems of labor and capital or with industrial relations, the majority of whose members are not primarily representative of the public interest.

Monetary

H. R. 12721 (Abolishing Sub-Treasuries). Introduced by Mr. Platt, referred to the Committee on Banking and Currency. The bill abolishes the sub-treasuries and provides for the transfer of the coin, currency, and bullion. It amends section 3595 of the Revised Statutes by authorizing the Secretary of the Treasury to discontinue after July 1, 1921, such subtreasuries as are mentioned in the bill and the exercise of all duties and functions by their assistant treasurers and officers. Section two of the bill provides that the Secretary of the Treasury is authorized to transfer any or all of the duties or functions performed or authorized to be performed by the assistant treasurers to the Treasurer of the United States or the mints or assay offices of the United States, under such rules and regulations as he may prescribe, or to utilize any of the Federal Reserve Banks acting as depositories or fiscal agents of the United States for the purpose of performing any or all of such functions. The bill appropriates the sum of \$300,000 for the purpose of meeting all necessary expenses. This bill, which has had hearings before the Banking and Currency Committee, was reported to the House on February 25, and takes the place of H. R. 12209, introduced by Mr. Platt on February 2.

H. R. 12450, (Silver). Introduced by Mr. Peters, referred to the Committee on Coinage, Weights, and Measures. This bill authorizes the coinage of a fifty-cent piece to the number of 100,000 in commemoration of the one hundredth anniversary of the admission of the State of Maine into the Union as a state.

Blue Sky

H. R. 12603 (Fraudulent Stock Promotion). Introduced by Mr. Volstead, referred to the Committee on the Judiciary. The bill is intended to prevent fraud respecting securities offered for sale, and provides that the Attorney General shall, if he believes it to be in the interest of the public, investigate any sale, promotion, negotiation, or distribution of any stocks, bonds, or other securities that involve the use of the mails; he shall require any persons, partnerships, or corporations to file with him a statement in writing under oath as to all the facts concerning such sale, and in addition thereto such further data and information as he may deem relevant and make such special investigation as may be necessary. In case

of disobedience to a subpoena of any witness appearing before the Attorney General, he may invoke the aid of the Supreme Court of the District of Columbia or of any district court of the United States. The court may thereupon issue an order requiring the person to obey the subpoena and give evidence in the matter in question. The Attorney General is also empowered, upon satisfactory evidence, that in the sale, promotion, etc., persons are employing any scheme to defraud, to serve upon such corporations or persons an order requiring them to desist. If it shall appear to the Attorney General that an irreparable public injury is imminent before such an order is issued and before full investigation can be made, he may, pending such investigation, issue an order, the same to be accompanied with a request for information as to the facts. This temporary order shall remain in force only until the information is furnished. For failure to comply with any of the provisions of this act a fine is provided of not more than \$10,000, or imprisonment of not more than ten years, or both.

Miscellaneous

S. 3943 (Weights and Measures). Introduced by Mr. King, referred to the Committee on Standards, Weights, and Measures; to establish the standard and decimal divisions of the weights, measures, and coins of the United States. The bill provides that the standards shall begin on the first day of January, 1920, as follows: The standard for the measure of length and distance shall be the foot as heretofore commonly used and established as a measure of length in the United States. The decimal divisions of the foot shall be the tenth or decimal inch, the hundredth or line, and the thousandth or point, of which ten points equal one line, ten lines equal one decimal inch, ten decimal inches equal one foot. The bill stipulates the multiples of the foot: the standard of measure of plane surfaces; the standard of measure of land surfaces; the standard of measure of volume; the standard of measurement of weight; multiples of the ounce; the standard of measure of liquids; the standard of measure of dry commodities. It also provides that the silver coins of the United States shall be the dollar, the 2-franc piece, the franc, and the dime, and defines the weight of each. It provides that gold coins of the United States shall be the pound, the eagle, and the double eagle, and defines the standard weight. It also provides that the coins of the United States shall have the following values: 1 cent equals 10 mills, 1 penny equals 2 cents, 1 nickel equals 5 cents, 1 dime equals 10 cents, 1 franc equals 20 cents, 2 francs equal 40 cents, 1 dollar equals 100 cents, 1 dollar equals 5 francs, 1 pounds equals 5 dollars,

1 pound equals 25 francs, 1 eagle equals 10 dollars, 1 eagle equals 2 pounds, 1 eagle equals 50 francs, 1 double eagle equals 20 dollars, 1 double eagle equals 4 pounds, 1 double eagle equals 100 francs.

H. J. Res. 298 (Management of Government Offices). Introduced by Mr. Moore, referred to the Committee on Rules. The bill is intended to make more efficient the administration of the business offices of the Government, and provides that the Speaker of the House appoint five Members of the House and the President of the Senate five Members of the Senate, who shall constitute a Select Joint Committee on the Organization, Activities, and Methods of Business of the Administrative Branch of the Government. This committee shall make a study of the general purpose of each distinct administrative service of the Government, and the manner in which it is organized; its method of business and the clerical force employed; the system of accounts kept and reports rendered by it, so as to make known the character and amount of its revenues and expenditures; the manner in which appropriations are now made for its support and any other facts that may be pertinent. The committee is empowered to determine what changes should be made in respect to the laws governing the methods of business of each such service with a view to the better discharge of the functions for which it is created; to determine what redistribution of activities should be made among the several services, with a view to having their activities performed by those services to which they more properly and logically belong. They should also determine what regrouping of services departmentally, and what new executive departments or bureaus of existing departments should be provided for. They shall provide that each executive department or bureau shall embrace only services having close working relations with each other, and ministering directly to the primary purpose for which the same is maintained and operated. The bill distinctly provides that the committee shall particularly determine the advisability of removing from the War and Navy Departments all services and the performance of all activities which are not of a direct military or naval character; for the removal from the Treasury Department all services not pertaining strictly to the administration of financial affairs. It also provides for the creation of a Department or Bureau of Public Works to take over all services having for their primary purpose the construction and operation of works of an engineering and construction character; for the creation of a Department or Bureau of Education and Science to take over the services now scattered among the several executive de-

partments, or existing as independent establishments; for the creation of a Department or Bureau of Public Health; the creation of a Department or Bureau of Maritime Affairs. The committee shall make a study of existing laws providing for the organization, defining the powers and duties, and regulating the methods of business of the several departments, independent establishments, bureaus, and other services with a view to their revision and assembly into a consistent and logically arranged administrative code, similar to codes now in effect in some of the States. The committee is authorized to employ such assistance as is necessary, expenditures to be paid in equal parts from the contingent funds of the House of Representatives and the Senate.

H. R. 12606 (Daylight Saving). Introduced by Mr. O'Connell, referred to the Committee on Interstate and Foreign Commerce. The bill provides for the establishment of standard time dividing the United States into five zones, the first zone to be based on the mean astronomical time of the seventy-fifth degree of longitude west from Greenwich, the second zone on the ninetieth degree, and so on clear on down to the fifth, which will include Alaska. The Interstate Commerce Commission defines the limits of each zone. Section three of the bill provides that at two o'clock antemeridian on the last Sunday in March of each year the standard time of each zone shall be advanced one hour, and at two o'clock antemeridian of the last Sunday in October the standard time in each zone shall be retarded by one hour.

H. R. 12376 (Helium Gas). Introduced by Mr. Esch, referred to the Committee on Interstate and Foreign Commerce, providing that it shall be unlawful to export from the United States helium gas except by permission in writing of the Executive authority. The President is hereby authorized to prescribe appropriate rules and regulations to govern the exportation of helium, and the exportation of helium, except as authorized herein, shall be punishable by imprisonment for not more than five years and not less than one year, or by fine of not less than \$5,000, in the discretion of the court, or by both such imprisonment and fine.

H. R. 12378 (Influencing Legislation). Introduced by Mr. McKeown, referred to the Committee on the Judiciary, providing that upon the passage of the Act any association, society, league, gathering, or individual who solicits funds to be used to influence national legislation or public opinion on national questions by means of propaganda, chain letters, or other written or printed or published appeals, arguments,

letters, petitions, or memorials, shall be required to file with the Secretary of Commerce on the first day of January of each year a verified statement of their receipts and their sources, giving the name and address of each donor and amount contributed, and of their expenses and for what purpose their revenue was so expended. Refusal to comply with this Act by any association, society, league, gathering or individual covered under its provisions, shall be deemed a misdemeanor and punishable by a fine of not more than \$5,000 or imprisonment not to exceed six months or both such fine and imprisonment.

H. R. 12556 (Limiting Size Newspapers). Introduced by Mr. Fuller, referred to the Committee on the Post Office and Post Roads. The bill provides that no daily, weekly, or semiweekly newspaper or periodical containing more than sixteen pages, and no Sunday newspaper or periodical containing more than forty-eight pages, and no quarterly, monthly, or semimonthly magazine or periodical containing more than one hundred pages, shall be entitled to transmission in the mails as second-class matter or at the rates provided for second-class matter.

H. R. 12611 (Conserving Print Paper). Introduced by Mr. Blanton, referred to the Committee on Post Office and Post Roads. The bill limits the size of daily editions, weekly editions, and semiweekly editions to sixteen pages; Sunday and special editions to thirty-two pages, with the idea in mind of conserving the print-paper supply and to meet the emergency caused by the shortage.

H. R. 12609 (Defining Presidential Inability). Introduced by Mr. Rogers, referred to the Committee on the Judiciary. The bill defines the provisions of the Constitution of the United States relating to the inability of the President. It provides that the Supreme Court of the United States shall, whenever requested by the resolution of either House of Congress, determine whether the President is unable to discharge the powers and duties of the office within the meaning of Article II, section 1, paragraph 5, of the Constitution of the United States, and may utilize such instrumentalities as it sees fit to aid in the determination. In case the Supreme Court finds that the inability exists, the powers and duties of the said office shall devolve upon the Vice-President. The Supreme Court may from time to time thereafter upon its own motion and initiative, and shall, whenever requested by the resolution of either House of Congress, determine whether the President's inability has been removed. In case it finds

that the inability has been removed, the President shall thereupon resume the exercise of the powers and duties of the said office.

H. J. Res. 297 (Amending the Constitution). Introduced by Mr. Fess, referred to the Committee on the Judiciary. The bill amends paragraph 5, section 1, Article II, of the Constitution, to provide that presidential disability shall be determined by the Supreme Court, when authorized by concurrent resolution of Congress. The Vice-President is authorized to call Congress into special session for this purpose on recommendation of the Cabinet.

SHIPS ASSIGNED TO INSURE SUFFICIENT NITRATE IMPORTS

Indications are that enough Chilean nitrate will reach the United States to meet the nitrate requirements of American farmers for this season. The limiting factor was lack of tonnage to bring the nitrate to American ports. The Department of Agriculture on February 7 placed before the Shipping Board the necessity for prompt action in making such tonnage available. A conference was held on February 11 between the Shipping Board and representatives of principal nitrate concerns, and an agreement was reached under which the board agrees to furnish prompt requisite tonnage covering the period from now until July 1. After that date, according to the agreement, importers will submit their sales on the first of each succeeding month, and the Shipping Board will enter into further engagements to supply the required tonnage.

Deliveries will be somewhat delayed for February and March, but nitrate concerns believe that they will now be able to handle April, May, and June arrivals in such way as to clear up all deliveries that are behind and to take care of the forward business in good form. Indications are that importers will make deliveries in accordance with contract, subject to some possible delay during the next few weeks.

Important Russian Iron Mines Inactive

Reports from Russia indicate that the most important iron mining region of Russia is inactive. This is the Krivoi-Rog region of southern Russia, which in 1913 accounted for 69 per cent of the total Russian production. Normal production from this region is about 7,223,000 tons yearly. Bureau of Mines.

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Paul Wooton, News Editor.
New York Office: 507 Fifth Avenue.
Tel. Murray Hill 3330.
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FEW OUTWARD INDICATIONS TO MARK RAILROAD CHANGE

After two years of Government control occasioned by the war the railroads will revert to private ownership March 1, but neither the traveling nor shipping public will probably notice the change because of the complete arrangements made to effect the change. To facilitate the return regional directors have been instructed to ascertain from the corporate owners of all railroads the officers to whom they desire heads of departments to report on and after March 1. Upon receipt of this information regional directors will advise such heads of departments that effective at that time government operation will cease and thereafter

they will report to the corporate officers designated until otherwise instructed by the corporations.

There will be no change in rates, the Cummins bill providing that changes therein shall not be made prior to September 1. Wages to railroad employees will likewise continue until September 1 unchanged.

The return to private ownership will affect an administrative personnel of 2,848, of whom 1,652 are carried on the Washington rolls of the Railroad Administration, including inspectors and procurement men, and 1,196 are employees under the regional directors.

Offices of regional directors will be closed March 1, save the retention of a legal representative or a few others who may be required to wind up affairs. Several men from each regional office will be brought to Washington, and the records of the offices will also be sent here.

The Departments of Operation, Traffic, Labor and Public Service will be closed March 1 and their work consolidated under the Director General. However, skeleton organizations will be maintained in these various departments in order to close up all affairs. The accounting department will be the largest to continue, and it will remain in existence probably longer than any other branch.

It is expected that it will require at least a year before the Railroad Administration will be completely wiped out.

Director General Hines will probably resign about May 1, and his successor is expected to be Max Thelan, Director of the Division of Public Service.

At the Railroad Administration it is the belief that the Board of Labor Adjustment under the Cummins bill will probably be selected and ready to function by April 1. It is not expected the President will select a tribunal to take up the wage question as he intimated in his letter to the Brotherhoods, for the reason that he said he would appoint such a tribunal in case Congress failed to provide a proper board. Congress having provided a board of nine members, it is expected the President will act promptly in its organization. The President is expected to select the three representatives on this board for the public, and may receive suggestions as to the personnel from the Railroad Administration.

There is a probability that some representative of the Railroad Administration will be appointed to the Interstate Commerce Commission under the act increasing the membership from 9 to 11. George T. Atkins, assistant to Max Thelan, Director of Public Service, is mentioned in connection with appointment to the commission, and it is understood that he has been so recommended to the President by prominent senators.

VALUABLE DATA ON FOREIGN MINERAL DEPOSITS GATHERED

"The study of foreign mineral deposits and supplies by members of the Survey staff had for years been incidental to the continued inventory of the mineral production and resources of the United States," says George Otis Smith in his annual report. "During the war, however, this study took on new importance and received special attention; in January, 1918, a preliminary statement of the mineral production of the world had been prepared in atlas form at the request of the Secretary of State, the Bureau of Mines cooperating. Work was then begun on the study of the distribution of the world's reserves of the essential minerals, with the specific intention of furnishing the American representatives of the Peace Conference with the economic data needed for their use. Two general purposes were served—first, that of obtaining a clear understanding of the relations between our own war needs and the foreign sources of supply from which these needs must or could be met; second, that of obtaining an understanding of the bearing of mineral resources upon the origin and conduct of the war and upon the political and commercial readjustment that would follow the end of hostilities. Extensive use was made of the results of the first class by the government departments that had to do with our foreign trade in its bearing upon domestic industries, notably the War Trade Board, the Shipping Board, and the War Industries Board. The results of the second class were put to immediate use by the army authorities, by the Department of State, and by the 'inquiry' charged by presidential order with the preparation of economic data for use at the Peace Conference.

"The appreciation by the 'inquiry' of the importance of the investigations of foreign mineral resources led to a cooperative agreement between that organization and the survey and to a small allotment (\$7,700) in June, 1918, to permit the employment of additional technical assistance for a period of one year. As the result of this cooperative work a world atlas showing the production of the more important mineral commodities was completed, together with atlases showing the mineral reserves of Europe and of South America, and a large amount of information was compiled in regard to other continents. Most of this information on foreign mineral deposits was compiled from published sources, but the material was enriched by important contributions of unpublished material from the private files of American mining engineers and geologists, and the cooperative relations thus established between the mining public and the Survey have been ex-

tended and strengthened as the work progressed.

"Formal cooperation with the 'Inquiry' terminated on January 1, 1919, and the work was reorganized on a new basis, with only six geologists devoting their time to foreign mineral deposits. At the same time general instructions were issued to the survey specialists assigned to work on domestic resources to devote attention to foreign deposits in connection with the domestic investigations, stress being laid upon those foreign deposits which contributed to domestic supplies. At present the working staff of six has been reduced to four, owing to resignations and leaves of absence.

"The larger share which the United States must take in international affairs makes it imperative that the public be better informed on these economic subjects, and therefore after the data thus compiled had served the immediate needs of the Government itself and there was no longer any necessity of maintaining the confidential status of most of the information the Secretary of the Interior warmly indorsed the proposal to prepare the material for publication, so as to make it useful to the general public.

"The 'atlas of commercial geology,' the first part of which is now in press, will exhibit graphically the distribution of mineral production and of mineral reserves. An effort is made to give the necessary world view by means of mineral maps of every continent. The basic importance of the raw-material resources to the country makes it a prime public duty of citizens generally to know the facts regarding the mineral industry, and to ascertain these facts. The intensive study of our own resources is not enough; we must also acquire a comprehension of what minerals other countries contain to supplement what we have at home.

"If it were possible to construct a composite diagram showing either the current output or the future reserves of the essential minerals in all the countries of the world the graphic exhibit would show so large a centralization in North America as to suggest that here is a group of nature-favored nations. Yet the present industrial demands for fuels, metals, and other mineral raw materials force the American business man to look beyond the present decade and beyond the borders of the United States. Commercial geology is simply the science of geology applied to the problems of industry in terms of trade. The 'atlas of commercial geology' will present the basal facts for use by the business man and thus show the relation of geology to national life.

"In connection with the compilation of mineral data for this atlas the survey

geologists have collected detailed information that is of practical use to the mining geologist or engineer in private employ. This material is of various quality, and from its very nature the record can never be regarded as completed and thus ready for publication, but to attain somewhat the same end of publicity an 'open file' of mineral information has been established in the Geological Survey. On the cards of this file are recorded in abstract the salient features in regard to foreign mineral deposits—the location and size of the productive area, the estimated reserves, the grade of the ores, and the nature of the commercial or political control. In addition to this a large amount of information is being compiled as to the recent production, imports, exports, and consumption of mineral commodities in foreign countries and as to recent developments that are of significance to Americans. The mining profession has been notified that this information has been compiled and filed in orderly fashion and is available for the use of American interests. Some of the largest American concerns engaged in the development of foreign mineral deposits have made extensive use of this file and have in turn contributed to it by transmitting material from their own files. The willingness to pool information that has cost many thousands of dollars may be taken as indicative of the get-together spirit of American industry, a type of public service in which it is eminently fitting for the federal scientific bureau to cooperate."

Open New Branch Store

A new branch store, assembling shops and sales offices of the Stephens-Adamson Manufacturing Co. are located at 412-414 East Third Street, Los Angeles, Cal. Large stocks of standard S-A equipment and supplies are carried ready for quick delivery. The Los Angeles district engineering department will be maintained to assist customers and prospective customers in the design of elevating, conveying and screening machinery. Engineers thoroughly competent and experienced, who have an intimate knowledge of S-A machinery and its many adaptations, will be available for consultation.

This branch will be under the direction of R. C. Pierce, Los Angeles district manager.

Leasing Bill Now a Law

The Mineral Leasing Bill, more commonly known as the Oil Land Leasing bill, became a law at 3.00 p. m. on February 25. This legislation is expected to stimulate mining operations throughout the public domain.

FRIES BECOMES HEAD OF CHEMICAL WARFARE SERVICE

Maj. Gen. William L. Sibert, chief of the Chemical Warfare Service, has been relieved of duty. He will be succeeded by Lieut. Col. Amos A. Fries. General Sibert will be sent to command the Fifth Division at Camp Gordon, Ga.

General Sibert commanded the First Division in France, under General Pershing, and the Southeastern Department at Charleston, S. C., in January, 1918. Later he was placed in charge of the Chemical Warfare Service.

General Sibert built the Gatun locks of the Panama Canal. He was chairman of the board of engineers on the flood prevention problem in the Hwai River Valley, China, in 1914. General Sibert lives at the Dresden Apartments, Washington, D. C.

BRITISH PIG IRON OUTPUT STILL BELOW NORMAL

The 1919 British pig iron output is estimated at about 7,370,000 tons with a steel ingot production of about 7,880,000 tons. This rate of production is not quite 75 per cent of the normal 1913 output of 10,260,000 tons pig iron, but is larger than the 1913 output of steel ingots, which amounted to 7,664,000 tons. The 1918 production was 9,072,000 tons of pig iron and 9,591,000 tons of steel ingots. —Bureau of Mines.

Sells Sulphuric Acid

The Ordnance Salvage Board, cooperating with the Director of Sales, has recently sold to the General Chemical Company, of New York, 1,832,000 pounds of sulphuric acid which had been declared surplus by the War Department.

A CREED

"I believe in the United States of America as a government of the people, by the people, for the people, whose just powers are derived from the consent of the governed; a democracy in a republic; a sovereign nation of many sovereign States; a perfect Union, one and inseparable, established upon those principles of freedom, equality, justice and humanity for which American patriots sacrificed their lives and fortunes.

"I, therefore, believe it is my duty to my country to love it; to support its Constitution, to obey its laws; to respect its flag, and to defend it against all enemies."—WILLIAM TYLER PAGE.

MINING FOR METALLIFEROUS MINERALS ON INDIAN RESERVATIONS

By J. R. JONES¹

Section 26 of the Indian Appropriation Act of June 30, 1918, authorizes the location of mining claims for metalliferous minerals on such land within Indian reservations as the Secretary of the Interior may designate. Up to date the Secretary has designated as being opened to such locations certain parts of the following reservations:

Arizona.—Moqui Indian Reservation, Salt River Indian Reservation, San Carlos Indian Reservation, Walapai Indian Reservation, Colorado River Indian Reservation, Fort Apache Indian Reservation, Western Navajo Indian Reservation.

Arizona and New Mexico.—San Juan Indian Reservation, Navajo Indian Reservation, Hoopa Valley Indian Reservation, Tule River Indian Reservation, Fort Yuma Indian Reservation, Morongo Indian Reservation.

Idaho.—Fort Hall Indian Reservation, Nez Perce Indian Reservation (Fort Lapwai School).

Montana.—Rocky Boy Indian Reservation, Tongue River Reservation.

Nevada.—Pyramid Lake Indian Reservation (Nevada School), Western Shoshone Indian Reservation.

New Mexico.—Mescalero Indian Reservation, Pueblo Bonito Indian Reservation.

Oregon.—Warm Springs Indian Reservation.

Washington.—Yakima Indian Reservation, Neat Bay Indian Reservation.

Locations are to be made in the same manner as a location would be made on public lands under the mining law, but within sixty days after making the location it should be recorded with the superintendent in charge of the reservation. The location may be held for one year only and, during that time, if the locator desires to continue his mining operations he should apply to the superintendent for a lease.

The lessee will have the right to mine only within the exterior boundaries of the leased land; in other words, no extralateral right will attach to any location or lease.

In conformity with the mining laws, individual placer locations will be limited to twenty acres, those for two persons to forty acres, and a claim of an association consisting of eight or more persons to 160 acres. If on surveyed land, they must be located in conformity to the legal subdivisions of the survey; if on unsurveyed land, they must be marked in the same manner as lode locations, but shall conform as nearly as practicable to what would be public land surveys and the rectangular subdivisions of such surveys.

Before a lease is granted covering any location, the claim must be surveyed by a United States Deputy Mineral Surveyor.

Each lessee will pay a royalty on production computed on the net value of the output of the minerals at the mine. This royalty will not be less than 5 per cent, but in view of the impossibility of fixing in advance by regulation the exact royalty to be imposed upon the different minerals found, the royalty governing each lease will be fixed and determined prior to the issuance of the lease and incorporated therein. The term "net value of the output of the minerals at the mine" is construed to mean the gross value of the ores, less the cost of the mining said ores, the cost of concentration, of handling, of transportation, of shipping from the mouth of the mine to the works where the ore is treated, and the cost of milling, reducing, or smelting. "Cost of mining said ore" covers only the cost of mining the ore produced and brought out of the mine during the month, and does not include cost of prospecting, of preliminary workings, or the cost of the mining plant.

In addition to the royalty on production the lessee will be required to pay an advance annual rental of 25 cents per acre for the first year, 50 cents per acre for the second, third, fourth and fifth years, respectively, and \$1 per acre for each year thereafter, the rental for any one year to be credited against the royalties as they accrue for that year; and to expend annually not less than \$100 in development work for mining claim located or leased in the same manner as required under the mining laws of the United States.

Lessees will be permitted to use not to exceed forty acres of unoccupied land for the purpose of a camp site, milling, smelting and refining works, or for other purposes connected with the development of the leased land. An annual charge of not less than \$1 per acre will be made for such a permit.

Lessees will be required to carry on mining operations to the fullest practicable extent, the state of the market being considered.

The law provides that the means of canceling the lease for failure to observe any of its provisions shall be by a proceeding in the United States District Court for the district in which the land or part of it is situated.

A copy of the law and regulations, including the form of lease, etc., may be obtained from the superintendent of any of the reservations referred to above. The regulations were approved by the Secretary of the Interior on September 16, 1919, and go into effect forty-five days from the date of said approval.

¹ U. S. Bureau of Mines.

TRADE COMMISSION ISSUES

ITS ANTHRACITE REPORT

The second report of the Federal Trade Commission's series of cost of production of coal (Report No. 2, Pennsylvania Anthracite) has been issued and is now available for general distribution. This report, like the others of this series, is based in part on information collected by the commission by means of its system of monthly cost reports from the coal operators, which were in effect August, 1917, to December, 1918, and in part on information collected by the commission, either through examination by its own agents of the operators' records or by means of cost reports from the operators themselves, for about 99 per cent of the anthracite tonnage produced, during 1917 and 1918, and on about 80 per cent of the tonnage, for the years 1913-1918.

The situation shown to have existed in the anthracite coal industry forms an interesting contrast to that set forth in Report No. 1, for the bituminous coal industry in the same state, and emphasizes the important differences between the two industries. Of particular interest at the present time will be found the following facts which are discussed in detail in the Anthracite Report:

1. Anthracite coal, unlike bituminous, is well adapted to storage above ground. By means of the storage facilities for large quantities of anthracite, either at the mines, or at points along the lines of distribution, much has been done to make the operation of the mines more steady during the spring and summer months when demand is normally low.

2. The country's supply of anthracite is produced by two general groups of operators. One group is that of the so-called "Railroad Coal Companies," relatively few in number, producing from 70 to 80 per cent of the total output; affiliated to some extent with the principal railroads which serve the anthracite field; owning, as a class, vast reserves of coal land; mining only a part of their lands and mining a relatively small part of their coal on a royalty basis from coal lands not owned by them; and controlling, in large measure, the marketing of their coal to the retailer, and sometimes even to the ultimate consumer. The other group is that of the so-called "Independent" operators. They number about ten times as many operators as there are "railroad coal companies" and produce from 20 to 30 per cent of the total output; own, as a class, but little coal land, and mine most of their product on the basis of royalty payments; operate usually on a relatively small scale, and sell most of their product to wholesalers.

In the report are set forth in detail the circumstances which led to the allowance to the "Independent" operators of a differential of 75 cents per ton on certain sizes, over the prices allowed to the "Railroad Coal Companies." There is also set forth, in detail, information concerning the royalties paid by the operators. Summarized, this information shows that 65 "Independent" operators who produced about 14,000,000 tons in

1918 paid an average of 14 cents per ton in royalties for coal taken from lands owned by others, and showed depletion charges averaging 35 cents per ton for such coal as was mined from their own lands, while 9 "Railroad Coal Companies," who produced about 45,000,000 tons in 1918, paid an average of 20 cents per ton on royalties, and showed depletion charges averaging 17 cents per ton.

3. The reasons for the differences in price regulation policy concerning sizes of anthracite adapted to domestic use, and those used for industrial purposes ("steam sizes") are discussed in full in the report, and it is shown how the falling off of the industrial demand for steam sizes, following the armistice, made it necessary to place the entire burden of the increased cost, due to the wage increase which went into effect November 1, 1918, upon the prices of domestic sizes.

4. The general conclusion to be drawn from the facts and figures in the report are that the increases in price of anthracite coal since 1916 have, on the whole, been closely proportional to the increases in costs of production, of which the increase in the labor cost—about 90 per cent—has been the most significant.

Copies of this report may be had upon application to the publication division of the commission.

BUREAU'S OIL SHALE WORK

HAMPERED BY LACK OF FUNDS

In its work on oil-shale technology, the Bureau of Mines has been handicapped by lack of funds; however, two of its engineers have been able to give most of their time to investigations and experiments connected with this potential industry. The bureau has collected a great mass of pertinent data, has followed all experiments and developments in this country, and has established cordial relationship with the Scotch shale-oil operators. It has examined numerous processes proposed for working the American oil shales and has carefully studied a few of these processes.

The bureau recognizes that sooner or later these shales will become of great importance as a source of mineral oils. Consequently, it believes that the time to begin to devise commercial methods of obtaining oil from oil shale is now, rather than when failing petroleum supplies compel us to resort to the production of such oil.

The Bureau of Mines from the first has stated that the production of oil from oil shale is not for the man of small means. It is a manufacturing venture that involves handling low-grade raw material on a large scale, and should be undertaken only by the best technical skill backed by substantial capital. The Bureau of Mines hopes to make its oil-shale investigations increasingly important and to become a clearing house for information on oil shale and shale oil.

—U. S. Bureau of Mines, Reports of Investigations.

INDUSTRIAL RELATIONS AND WELFARE

Senator Myers, in discussing the Railroad Bill, said:

"I believe organized labor is making a mistake in going to the extent to which it is going to force on the people of the country class legislation of the rankest kind. I believe it is taking a position which is unwise, unjustifiable, and untenable. I have voted for many measures that organized labor wanted because I believed they were legitimate, but I cannot approve of the extreme length to which organized labor is going at present, in order to force class legislation, by a class, for the benefit of a class, upon all the people of the country.

"I think labor in its demands of the present day is going entirely too far. I think the extreme, radical, dominating demands, actions, and threats of organized labor are the greatest menace that confronts the country today and think they constitute a very serious menace.

"The American Federation of Labor has now gone into the field of national politics and announced that all who oppose it—all Members of Congress who oppose what it wants and all other public officers who oppose its demands—must be defeated in the coming election this year, if they should be candidates for reelection, and that organized labor will see that only those who are subservient to it are elected. I think that is going entirely too far for free government, entirely too far in the direction of class legislation, and it appears to me that it has about come to that, that it is a government of labor unions, for labor unions, by labor unions. At any rate, it has gone a long way in that direction, and I think we are hastening headlong to that condition, and the people seem to be asleep. It has gotten to be so that I hardly hope for any legislation which is opposed by Samuel Gompers to pass Congress. The majority of the bills opposed by Mr. Gompers certainly fare badly in Congress.

"The great mass of unorganized people seem to be blind to conditions that confront them. The most of them stick to party names and let a small minority highly organized demand and get class legislation for the benefit of a few. Today there is no great material issue between the Democratic and Republican parties. Some are saying that the vital issue between the two parties will be the tariff question. In my opinion the tariff cannot be a vital issue for many years to come. For many years this country will need all the revenue it can get from all sources, in order to pay the enormous expenses of the great World War

and in order to reduce the public debt and defray the great expenses to which we will be subject for many years to come. We will need all the revenue we can get from the tariff and all other sources. We will need all the revenue that the traffic will bear from every source, and I cannot see how the tariff can be made an issue between the Democratic and Republican parties for many years to come."

Senator Simmons, in discussion of the Railroad Bill, said:

"It does not lie in the mouth of labor to oppose compulsory arbitration of the character provided in this bill. They have too often consented to that proposition and too often championed that proposition. It is only a few months now since a great conference met in this city, and in that conference labor complained that they were not permitted to have arbitration because of the opposition of the other parties to that controversy. Arbitration is something that the representatives of labor in this country have never opposed, so far as I know. Their opposition, therefore, must be taken as confined to the proposition of arbitration advanced in the conference report, unless, of course, they put it upon the ground that the public has no right to be represented in an arbitration board to pass upon wage questions as between them and their employees.

"That may be true in certain cases, but it is not true with reference to arbitration to decide the question of railway employees' wages. The railway is a public utility. The service which it performs is performed in the interest of the public. The public pay whatever wages are fixed and agreed upon, and the public not only pays the wages but they pay the rates of transportation that may be established.

"The unions are opposed to this legislation because they want government ownership of railroads in this country. They say, 'Let the roads be run two years longer by the Government.' For what purpose? To try out the question of government ownership, and, further, to test its merits and give them an opportunity, through their propaganda and their agitation, to strengthen their organization and to undermine the sentiment of this country against government ownership.

"Why do they ask for government ownership? Why are they so insistent upon it? The reason is a purely selfish one. It is because they believe that under government control of the railroads they will be able to

obtain higher wages; that they will be able, through their control of the Congress of the United States, to do what they did when they came here and forced us, against our will, to pass the Adamson bill."

Congressman Black, in his discussion of the Railroad Bill, said:

"In my judgment, the establishment of the labor board which is created by this bill will go a long way toward solving labor difficulties in a constructive manner. I am one who earnestly believes in the value of organization among laboring men, just as I believe in its value in the business world; but at the same time, just as I believe that some limitations and restrictions must be thrown around organizations of capital in the public interest, so do I believe that organizations of labor must be under some measure of public control."

Congressman Denison, in his remarks on the Railroad Bill, said:

"There is not a man in this House who is more bitterly opposed to the government ownership or operation of the railroads than I am.

"Any man who is opposed to the immediate return of the railroads to their owners, in my judgment, is not only using bad judgment but he is not thinking of the best interests of the Government or the people.

"I am opposed to any guaranty by the Government of any particular return or income on private capital invested in any industry. I do not think it is necessary or wise. There are so many intricate questions of railroad valuation, railroad management, and railroad financing involved that Congress is not in a position to fairly and intelligently determine and fix by legislation the fair return of income on investment of private capital in the railroads of the country.

"I think it is an unwise and dangerous policy for the Government to undertake by legislation to level up such investments by guaranteeing a fixed return. It is the first step toward socialism, and I am opposed to taking the first step in that direction.

"I am opposed to any law that purports to fix the wages of any class of employes in any industry. It is unwise and un-American and is another long step in the direction of socialism. The amount of wages that men should receive for their services ought to be determined in all cases by agreement between the employers and the employes. Wages should be determined by economical and industrial and social conditions. This can only be done by agreement between employers and employes. When wages are determined by the legislatures or by the Congress they will be determined by political

conditions and considerations. It is a dangerous policy both for the Government and for the employes."

Congressman Cooper in discussing the Railroad Bill said:

"The war is over and the people are sick and tired of government control, war supervision, and regulation. There is a general feeling that, inasmuch as we are on a peacetime basis again, we should have less government interference with legitimate private business and that Congress should encourage and assist private enterprise and individual initiative, which in the past has made us the greatest nation on the earth."

Congressman Johnson, in discussing the Railroad Bill, said:

"The railroad lobby has been no more vicious but just as insidious as that maintained by the American Federation of Labor and the brotherhoods. They both have wanted everything for themselves and have cared nothing for the public. The public would be justified in considering neither of them, and it has the power and will to enforce its dictum. Both lobbies should be punished. Both, when they had the power, have bulldozed, bribed by political promise, and deluded by economic demonstration. Both have retained clever lawyers to misrepresent the facts and used every element of publicity to delude the public. If the conference report fails, the railroad interests will insidiously work for the defeat of every man who opposed it. If it carries, the American Federation of Labor will use every art known to the demagogue to defeat its supporters. Both have bored and do bore from within. Each could win if it were not for the fact that each year the United States is fortunate enough to receive new young citizens, who are not afraid of any national enemy, alien or domestic. Neither capital nor labor because of the accident of fortune, has a right to dictate the policy of the United States with reference to its public utilities, and whether they be 1 or 20 per cent of the total population they will never dictate it. Labor is entitled to the fair and decent things in life and railroad owners are entitled to a fair return on money invested. Private ownership is having its second and last chance; the pendulum is swinging narrowly; public ownership, which failed because of its lack of economic foundation, its handicap of McAdoo political vote-getting inefficiency, and the grasping of labor when men with sporting blood fought for \$30.00 per month, will get its second chance under laws that prohibit strikes and confiscate capital if private ownership fails. It makes little difference to most of us which plan is adopted so long as it makes good. The public, and neither capital nor labor, will make the decision."

Congressman Mondell, in discussing the Railroad Bill, said:

"Gentlemen attempt to justify their opposition to the bill on account of the provisions of the labor section, and yet anyone who has given that section careful consideration knows that there is not a line nor a word in it that can reasonably be objected to by any reasonable man; there is not a line of coercion or compulsion in it. If it has any fault at all it is the fault of furnishing over-elaborate provision for the submission and consideration of labor questions, but no man is required to either submit his grievances to or be controlled by the decisions of the agencies which are provided. It leaves every man free to work or quit work, individually or in combination with his fellows. It is also stated that the bill contains improper guaranties, and yet it contains no guaranty whatever, except the guaranty that wages of the employes shall not be reduced and, for the same period of six months, a guaranty of continuation of the standard return which the roads are now getting. The men who are complaining the loudest against this are the very men who would continue federal control and the standard guaranty indefinitely.

"We are about to determine whether or no as a party of the House of Representatives we are qualified to legislate along constructive lines. No man can afford to vote against this conference report except the man who is so enamored of public ownership that he is willing to invite nation-wide distress and disaster, in the vain hope that out of the wreck will come government ownership."

Hon. Frederick H. Gillett, Speaker of the House of Representatives, in a speech at Springfield, Mass., on February 8, said:

"There is one source of discontent which is always with us, and I suspect always will be with every government, and that is the conflict between employers and employed. My sympathies naturally go with the employed, with the under dog, with those who in the struggle of life have had the least success and who get less than their share of the product of their toil. I always hope instinctively that those striking for higher wages will win, but the subject just now is too important and too vital to our industrial life to be decided by sympathy. A generation ago the employers had the upper hand, and it was against their power and oppression that the state needed to interfere. Corporations had combined into trusts, which had become monopolies so strong that the Federal Government felt bound to interfere and by legislation to break their power and divide them into less formidable fractions. Today we have another problem. It is a question whether the combinations of the employed are not more threatening

to our business life than of the employers. I am a believer in labor unions. They have accomplished a vast amount of good, but when they go so far as to threaten to stop the wheels of the railroads and close the output of the mines, they are exercising a power which no government can safely permit. The sympathy which the public has given to the labor unions is liable to turn to hostility if they, in the pride of power, exhibit the same selfish indifference to the public interest.

"The shortening of the hours of labor has been one of the glories of the labor unions, and yet even that most laudable purpose can run too far. Today the one exhortation the American people need is work. And while I would not urge any permanent abandonment by labor of its ideal of constantly lessening hours, yet today the laboring man and every other man as he sees the world short of everything which man produces should say: 'It is no time for leisure or for laziness or for complaining of long hours. What the world needs is production.' Unless our people abandon their ease, their reluctance to labor, their readiness to strike or to profiteer, we are likely to have panic and disaster."

Senator Brandegee, in a discussion of the bill authorizing the sale of government ships, said:

"I am utterly opposed to government ownership and operation of ships as a continuous, permanent business and policy, because it is the entering of the Government upon business, and I do not think in this form of government it was intended to set the Government up as a competitor of its own citizens in the transaction of ordinary business.

"I am opposed to the government ownership and operation of railroads for the same reason. I am opposed to government operation of grocery stores, wheat farms, and cotton fields, etc., unless the people of the country want to go out of business and have a socialistic form of government and have the Government take over the business of its citizens."

Senator Meyers, in discussing the Deficiency Appropriation Bill, said:

"I am opposed to these numerous commissions and conferences to discuss every dispute between labor and capital. I think they only encourage strikes. I am sure the commission which is now sitting will decree a further increase in the wages of coal miners, over and above the 14 per cent which has already been allowed them, and all of which, there is evidence to show, is now coming out of the public. I think it was a foregone conclusion when this commission met that it would grant a still further increase, and the public will have

to bear that, and I think these numerous commissions to arbitrate every dispute about wages simply encourage workmen to strike. I think they reason in this way: 'We will go on a strike, and it will be referred to some government commission. The Government will interfere, and appoint a commission to arbitrate the matter, and if we do not get all that we demand, still we will get a part of it.'

"I am not in favor of the plan."

Senator King, in discussing the Deficiency Appropriation Bill, with particular reference to the Public Health Service, said:

"Of course it is a commendable thing to care for the health of the people; but we did not organize the Federal Government in order to make it the parent and the overlord of the individuals and of the states."

"I was surprised the other day to receive a communication from my state stating that there were literally hundreds of federal employees therein. There are thousands of them traveling from Washington at an expense to the Government of millions of dollars annually to investigate everything, great and small, which is related to the lives of the people. I venture the assertion that there are from two to three hundred thousand traveling through the United States at an expense of millions of dollars to the Federal Government, looking into the internal affairs of the states and the domestic affairs and lives of the people, and into their business activities; work which if necessary to be done should come under the cognizance of the people themselves, or under the jurisdiction of the states."

"I want to protest now, as I have in the past, against this constant and persistent invasion by the executive departments of the rights of the states and of the fields of activity in which the people themselves should alone enter."

The National Association of Manufacturers recently issued a statement entitled, "*Which Warning Do You Respect?*"

"Wherever candidates for reelection have been friendly to labor's interests they should be loyally supported. Wherever candidates are hostile or indifferent to labor's interests, they should be defeated and the nomination and election of true and tried trade-unionists or of assured friends should be secured."

"Complying with the instructions of the last convention and the Labor and Farmer Conference of December 13, 1919, the American Federation of Labor announces its determination to apply every legitimate means and all of the power at its command to accomplish the defeat of labor's enemies who aspire for public office, whether they be candidates for President, for Congress, for state legislatures, or any other office,—

Executive Council, American Federation of Labor.

"The very idea of the power and the right of the people to establish government presupposes the duty of every individual to obey the established government."

"All obstructions to the execution of the laws, all combinations and associations, under whatever plausible character, with the real design to direct, control, counteract or awe the regular deliberation and action of the constituted authorities, are destructive of this fundamental principle and of fatal tendency."—*George Washington's Farewell Address.*

The New York Evening Sun, in an editorial comment upon the labor situation, said as follows:

"At last a labor leader has spoken words of wisdom to labor and spoken them with a trumpet voice. Mr. James Henry Thomas, General Secretary of the National Union of Railwaymen, of England, has seen the peril that threatens civilization and has appealed to his following to avert it."

"Unless something be done, something big and something speedy, a crash will come, he says. He adds the supreme word that in case of a crash nobody will suffer more than the workers."

"We would not do anybody an injustice, but we can recall no similar warning or summons, from the tongue or pen of any of our domestic labor leaders. Some of them, at least, are shrewd and well-informed enough to see the truth. No doubt many are exerting their influence in the right way to avert the universal danger. But it is a pity that one or more of them does not come courageously out into the open and rally their forces to the defence of the world."

"The painful aspect the labor movement has on the surface is that of trying to get anything special it can out of the situation without putting anything special into it. This is a total and disastrous error. Labor can win nothing that it does not create. It cannot keep on taking more and more gain out of industry while it puts no more product into the pool or even less than of old. How can it do so? How can it dream of doing so? The attempt, as a matter of plain common sense, ordinary arithmetic, simply amounts to an acceleration of wholesale bankruptcy, stagnation and suffering."

"Thomas, the British railway man, tells the workers of his country that they must drive a quarter harder than before the war; the French twice as hard and the Germans eighteen times. So far as we can see, the Germans are the only people who are trying to live up to this program, and they only in spots. But in so far as they do exceed the other nations in speeding up, just in

that degree will they win in the new contest, the struggle of economies, which twenty years from now will have far more effect on the relative fortunes of the Powers than all the shots that were fired from Liege to the Marne and back again. The real war is now on and it is a war of work and brains.

"The British leader suggests no figure for American effort; but is there anything unreasonable in setting it at the same notch with his proposal to his own countrymen, an increase of output of 25 per cent? Put it this way: If they work up to that level, can Americans lag behind and compete with them? Plainly not. However, to exercise extreme moderation, is there anything unreasonable or oppressive in the demand that an efficiency and a scale of production equal to that before the war shall be restored and maintained? Notoriously, it is not in many industries; it may be doubted if it be upheld in any single one. Despite the enormous increase of wages, there is an insistent complaint of reduction of effort and product, ranging from 10 to 30 per cent.

"We commend Mr. Thomas's brave and enlightened appeal to the workmen of his country. We urge it upon the attention of labor leaders. The danger which he proclaims is real. It threatens this country as well as England. The whole world stands or falls together in this age; besides, we are impoverishing ourselves by wanton curtailment of our activity. The remedy is the same for us also as for our neighbor across the ocean; Work, good work, productive work! Can it be that the pleasure and pride of full effort, manfully put forth, no longer have an appeal for honest men?"—*Evening Sun* (N. Y.).

Charles M. Schwab, in a speech recently made in Wheeling, W. Va., said:

"I have the greatest optimism for the future of the country. I do not fear the overturning of the Government by the bolsheviks. I intend to spend more money for business expansion than ever. In fact, I will spend all I have and all I can borrow to build and increase business."

The *Daily Mining and Financial Record* publishes a part of an address by **Congressman Evans** of Nevada, on "*Conservation*," which is as follows:

"The word 'conservation' has a wonderful sound, but when stripped of fancy and exposed for definition, has more of applied than actual meaning.

"'Conservation' should give way to the word 'development.' The land or mine has only potential value, requiring work, hard work, upon the part of the pioneer to make it of actual value. The pioneer is there, willing and earnest to cultivate the soil. Con-

servation prevents the achievement, conserving the land, the opportunity, and the necessary work for some future man or condition to arise, while the pioneer is ready now.

"Conservation means suspicion of the only man competent to reclaim the land. Encourage the man whose ambition is building the west. Repeal laws obstructive to his progress; his successor may be unwilling and unfitted to successfully carry on the all-important work. Give the pioneer your confidence and recognition.

"The man who lives on beans, bacon and canned goods on a mountainous desert, where a goat would starve, giving his lifetime to develop barren areas where an eastern man would die of homesickness, should be encouraged. You hear doubt from men who are more familiar with cut glass and marble bathtubs, whose greatest hardship is the nerve-racking experience of riding a street car, seeking the 'bubble reputation' as protectors of eminent domain from looters, existent only in the over-anxious imagination of men who know exactly nothing of the west and western needs. Conservation means keeping as it is, which would be a state of utter worthlessness to all humankind. Development means bringing into useful purpose and production large areas of desert. You must encourage development by granting title when a reasonable amount of annual work is expended upon vacant government land. There is no way to make that soil produce except by privation and toil. The people of Nevada are afflicted to the limit with bureau regulations, scores of government inspectors, collectors, and dictators from Washington traveling through our state imposing impractical methods at our expense, while Nevada seeks only the right to conduct her own affairs, with your approval of the integrity of her legislature to enact laws, encourage development of worthless lands, and so they will remain worthless, except for one thing work.

"You gentlemen mean to be fair. It is only your lack of information which causes mistrust against the state. Your most progressive laws come from the west. Decide upon a different western policy, instead of creating and trusting bureaus, place your faith in men of the west whose interest and honor are at stake, desiring to best build their beloved section of our country. Their governor and legislators deserve your complete trust.

"Some months ago this Congress passed a measure, the object of which was to encourage development of water upon arid Nevada lands. The legislation was experimental, but has proven a great stimulus to entries upon barren lands; much money will be expended to demonstrate an underground flow of water. That legislation aids pro-

gress in Nevada reflecting credit upon your judgment.

"Let us draw a homely example of the man whom you all know, who looked forward to the twenty-first year of his life as the period when he would be his own boss and could act without parental interference, always in his mind the idea of doing right with others. A boy of twenty-one is entitled to live his own life; the need is recognition of his maturity. Nevada has been twenty-one years old since 1885, eager for her opportunity. Held back by laws made by men who never saw the state; laws made by other men who rode across that which was to them, from a Pullman car, a forbidding desert, coming back to their eastern homes of culture convinced that what they saw must remain as it is.

"Conservation is defined as 'the act of conserving,' or 'keeping as it is,' therefore your law of conservation means prevention of work necessary to reclaim the desert.

"Nevada, being of age, demands that she be given the state of depending upon herself. Knowing as he does the peculiar needs of our desert country, the pioneer is the logical expert upon whom you must rely for light upon the best plan of operation. Remove collectors, experts, and instructors; depend upon the integrity of our citizens to build a commonwealth of which all will be proud, build upon the foundation of industry and reason.

"Nevada, as a state, was born during the agony of civil war, when her production of gold and silver bullion as a horn of plenty was poured at Lincoln's feet that all men may be free. If wrong to dominate an individual, it is wholesale wrong to refuse full freedom to a state whose citizens demand recognition of their indomitable Americanism and self-reliance."

Congressman Ricketts, in discussing the Deficiency Appropriation Bill, made the statement that the difference between the estimates for appropriations for the fiscal year of 1916 and for the fiscal year of 1920, both peace-time years, is \$3,775,234,897.24.

"The taxpayers of the country are sorely burdened and distressingly oppressed with the enormous burden of taxation.

"The taxpayer is a loyal and patriotic citizen. He does not shirk any duty which may be enjoined upon him but he demands that Uncle Sam conduct his business on a business basis.

"The United States Government appropriated and spent more in the two years covering the war period than the entire cost of the government of the United States from George Washington's day as President—1789 to April 6, 1917—and that includes the cost of the Civil War, the War of 1812, the War with Mexico, and the War with Spain.

"The collections of income and profits taxes for the year ending June 30, 1919, amounted to \$2,600,783,902.70, and the total receipts of the Internal Revenue Bureau from all sources during the year amounted to \$3,850,150,078.50.

"It is perfectly plain that our Government has resorted to drastic taxation, and yet her income now does not equal her current expenses. We should stop and consider where we are drifting.

"You may say that we are a rich nation. Our total wealth is estimated at \$250,000,000,000. We are a credit nation; the balance of trade is on our side of the ledger. Let us keep it on our side of the ledger but not at the expense of the taxpayers of the country.

"With only 6 per cent of the world's population and only 7 per cent of the land, the United States produces:

Twenty-five per cent of the world's gold.
Forty per cent of the world's iron and steel.
Twenty-five per cent of the world's wheat.
Forty per cent of the world's lead.
Fifty per cent of the world's silver.
Fifty-two per cent of the world's zinc.
Sixty per cent of the world's aluminum.
Sixty per cent of the world's copper.
Sixty per cent of the world's cotton.
Sixty-six per cent of the world's oil.
Seventy-five per cent of the world's corn.
Eighty-five per cent of the world's automobiles.

We also refine 80 per cent of the copper and operate 40 per cent of the railroads.

Congressman Black, in discussing the Deficiency Appropriation Bill, said:

"I do not wish to be understood as opposing government price fixing of certain essential commodities during the war. The dislocation of industry and the abnormal world conditions made it necessary, but as soon as the peace treaty is ratified I think the nearer we get back to the old-fashioned doctrine of letting supply and demand regulate prices the quicker the equilibrium of the world's production will be restored."

"Industry" publishes the following by the Rev. Charles E. Eaton:

"A fundamental principle is that public opinion in America is the last court of appeal. No strike will ever succeed unless it has the support of the community in which it occurs. If public opinion is convinced that the strikers' cause is just, and their methods lawful, they are sure to win in the long run. If, on the other hand, the community is convinced that the employer's side represents the justice in the case, the strike is doomed before it begins.

"This principle applies not only to strikes but to every other issue affecting the com-

mon interest of the people. An enlightened public opinion, based upon an intelligent grasp of all the facts and governed by principles of morality and justice, is the last court of appeal in this nation. And not only that, but it forms the very foundation of our institutions and the only guarantee of their performance."

The following article from the **New York Sun** was reprinted by the *Daily Iron and Steel Report*:

"Governor Smith put his finger on the solution of the living problem when he proposed to settle a wage dispute with more pay for the workers provided they would increase their output and their employers would check their waste sufficiently to save the public from paying the increased wages in higher prices.

"Apply that sound rule to all industries and the advancing cost of living would stop dead short in its tracks. Let the economic principle work to its logical conclusion, with every new dollar and old dollar of wages more than earned, and the inordinate prices which have been mounting incessantly would turn sharply downward. The fifty-cent dollar would become in turn a dollar of seventy-five cents and of one hundred cents. A day of solid labor at an American standard wage once more would exchange into adequate food, comfortable clothes and a good home.

"Nobody is fool enough to think that cutting a loaf of bread in half makes it two loaves. Nobody is fool enough to think that if it takes him an hour to walk three miles to his work he can get there just as fast by walking at the rate of a mile and a half an hour. Yet millions of workers in this country today are foolish enough to imagine that when it takes a square day's work to earn a living they can get it by doing half a day's work. Millions of producers in this country demanding more food to eat and more clothes to wear, better roofs over their heads and better furnishings in their homes, are foolish enough to imagine that they can get all those demands satisfied by producing less food, less clothing, less material for houses—doing less work at anything and everything.

"A man works at raising potatoes, or weaving cloth, or chopping wood, or setting type, or puddling steel, or whatever it may be. He must live out of what he produces by that work. The more he produces the more there will be for him to get out of it. The less he produces the less there will be for him to get out of it, no matter what dollar marks he or anybody paints on his wages, no matter what sociological laws are passed, no matter what form of government exists or is instituted.

"The nation works at all the things at which this, that and the other individual

works. The nation, embracing all the individuals, can have and distribute and consume and enjoy only what it produces. The nation can work hard, live well and grow rich, or the nation can shirk and grow poor in real wealth—not the dollar marks, but the food, the clothing, the houses, all the necessities and luxuries to which Americans have been accustomed. As the nation goes—up or down—so must its individual workers go with it.

"If the American people will buckle down to work and for every square day's pay deliver a square day's production the high cost of living can be made to stop pillaging everybody's income. If they go on loafing on their job of production they are sticking to the road which leads to the national poorhouse."

Congressman Blanton, in discussing the Deficiency Appropriation with reference to the Department of Labor appropriations, says that the Secretary of Labor is running the Conciliation Board as well as every other department under him in the interests of labor unions and not in the interest of labor in its broad sense. The Department of Labor is improperly named and should be called the Department of Union Labor.

Congressman Byrnes, in discussing the Deficiency Appropriation with particular reference to the appropriation for the Department of Labor, said:

"The duty of acting as a mediator and conciliator in an industrial dispute is always an unenviable duty. The Board of Conciliation and Mediation, employing commissioners has been able to satisfactorily settle nearly 2,000 disputes. If this board can settle one industrial dispute, it has more than justified the expenditure."

Senator Pomerene had printed in a recent issue of the *Congressional Record* an address by the **Hon. John A. M'Mahon**, as follows:

"The platform of the American Federation of Labor given out by Mr. Gompers at the conference held in Washington was said to represent four million workers.

"This platform defines the 'Right to Strike' as the right to cease work—strike—as a final means of enforcing justice from an autocratic control of industry must be maintained.

"If that is the whole meaning of the word 'strike,' we shall have little quarrel, except in the case of policemen, firemen, railroad men in a body, and other public employees who owe a duty to the public, and whose services are essential to the public life or safety. Even as to them, no one will doubt the individual right to resign—that is, to 'cease work'—when they find bet-

ter employment. But to become affiliated with another powerful organization and subject to its orders, resigning in a body, is an unspeakable offense deserving of punishment.

"Every government is entitled to preserve itself or its people when the conditions arise that necessarily follow a general concerted and simultaneous quitting of work."

The **Daily Iron and Steel Report** publishes the following article issued by the **Farmers and Merchants' National Bank** at Los Angeles:

"The greatest need of the hour, in America, is to arouse in the hearts of the American people a love of this country, for its institutions, its form of government, its past history and achievements; to restore to the mind of the average individual a respect for property rights; to establish a belief in the soundness of our government, its principles and policies; to awaken a realization that this nation is worth fighting for and preserving. Some departments of the present administration have been, for seven years, incubators of unrest and disloyalty, of socialism which is but one degree removed from Bolshevism. It is necessary for the thinking people and educators of the land to overcome the evils sown by preachments as to the new freedom, and the governing rights of the people, as distinguished from their government. Our people get just such a government as they deserve, no better or no worse. In 1912, owing to the all-consuming ambition of Roosevelt, the conservative party of the nation, under which it had prospered prodigiously, was broken down—temporarily destroyed—and the radical party of the nation, with its political nightmare, dreams, theories and heresies of government, came into power. During the last seven years we have had democracy constantly preached to us, while autocracy has been practiced. Liberty has been prated of and, at the same time, destroyed. Freedom of action has been boasted of, and the rights of all the people have been subjected to the domination of a class. The party in power, holding office through a majority popular vote, has ever arrogantly boasted about obeying the popular will, while, as a matter of fact, the popular will and the advice of the brains and experience of the country have been deliberately ignored."

Senator King, in discussing the Deficiency Appropriation Bill with reference to the increase of efficiency in the enlisted personnel of the Army, Navy, and Marine Corps, etc., said:

"We are now departing from the faith of the fathers which developed this mighty people and builded this nation. We are to

become exotics, mere hothouse plants, dependents, and weaklings, greedily looking for gifts and contributions from governments. We are developing a bureaucracy; we are becoming a nation of office holders. Contemporaneous with the development of this condition, we are enlarging the powers and activities of the Federal Government. A large office holding class inevitably breaks down the limitations upon governments. The erosion of constitutional restrictions leads to consolidation and autocracy. The paternalistic tendencies of the Federal Government are apparent to the most superficial students and the regret is that so few raise their voices against an evil which in the end must modify and indeed change the very fundamentals of this republic.

"I may be old-fashioned, but I believe in this republic. I revere the Constitution of the United States and would preserve it in letter and in spirit. I would have as little legislation as possible and permit the free development of the individual units constituting the state.

"We are developing a spirit of dependence upon the Government, so that in all parts of the land there is a feeling that the Federal Government must play the part of a father. It must furnish work for the people and discharge the duties and responsibilities which should rest upon the individuals and upon the states.

"The idea seems to be that we must have two classes of people in the United States—the taxpayers and the hard-working civilian upon whose shoulders shall rest the burdens of the Government; and the vast army of governmental employees, whose numbers will constantly increase and whose labors are to be constantly lightened.

"We are to have two classes of people, apparently, in a short time in the United States, those who draw pensions and those who have to pay the pensions.

"It may be that that is the right sort of a government to have. It may be that the Government should take over the railroads and the telegraphs and the telephones and all the public utilities and engage in all sorts of socialistic undertakings and enterprises and have millions of men upon the pay rolls who will soon obtain pensions.

"Speaking for myself, I am for this Republic. I believe in preserving it and in fighting these dangerous and deadly isms which so craftily and in such pleasant form are preached by the false prophets who fill the land.

"In the Senate we are strengthening the view that the Federal Government is omnipotent and has no limitations upon its powers.

"We spend much of our time in creating offices and then a large part of the rest of

the time in providing compensation for those who are in office."

Congressman Luce, in discussing the Urgent Deficiency Bill, said:

"No more grave crisis has confronted the people since the days immediately before the Civil War. Class is arrayed against class; social, political, and industrial institutions are attacked; millions of people are suffering from ills arising from conditions which they do not understand. The end of every month finds them poorer in purchasing power than when that month began, forcing them to hardships to which they have never before been accustomed. Daily the cost of living rises, daily unrest spreads, daily there is more suffering from the maladjustment of wages and incomes.

"The total assessed valuation of this country in 1912 was put at \$187,000,000,000. The expenditures by the principal nations engaged in the war amounted to \$186,000,000,000. The amazing total of the economic cost of the war, estimated by the Carnegie Endowment for International Peace, is \$338,000,000,000.

"Last year with the war over, with our men returned from the front, with perhaps 3,000,000,000 more toilers at our command, averaging it through the year, we actually produced less than in 1918.

"It has been shown that in the case of one steel ship, launched not so long ago, 400,000 hours of labor were required to produce a ship, whose sister ship had been produced before the war by 200,000 hours of labor. The efficiency, the productiveness in that one field, has been just cut in two. You may go through all the range of activities and find results of the same sort. The Pennsylvania Railroad reports that entirely apart from wages, it now takes 127 men to do the work done by 100 in pre-war days.

"There is \$2,000,000,000 of fiat money in circulation today, which means, roughly speaking, \$20 of fiat money for every individual in this country.

"The panic of 1907 was a crisis typical of those that are due to inflation. Once more we find the situation as before all great crises, enormous increase of money, wild speculation; indifference of wage-earners; unwillingness to work; slackening of production; social unrest; strikes on every hand; protests against industrial, social, and political conditions—everything forecasting a result that hitherto has been invariable. We can do nothing to remedy the situation by legislation. The program of work and save has been urged, but it has failed utterly.

"At this moment the taxes placed on the people by the different cities in the United States for their own affairs amount to nearly \$150 a family."

Congressman McArthur, in a recent address on the floor of the House, said:

"The overshadowing issue before the American people today is: 'Shall we have government of, by, and for the people, or shall we have government of, by and for special interests?' This question transcends all other issues now before the country and it is one that must be met squarely and fearlessly—not only by men in public office but by political parties and also by the great body of the people. It cannot be dodged or evaded, and, as it involves a principle, it cannot be compromised.

"There is a vast distinction between an individual quitting work and a body of men engaging in a strike. A striker does not quit work in the sense of terminating his services; he joins with others in refusing to work and in trying to prevent others from filling his place until his demands are granted. He expects to return to his work under conditions prescribed by him and his associates and obtained by the rule of force rather than the rule of reason. He should not be permitted, in concert with his fellows, temporarily to quit work for the purpose of penalizing transportation in order to advance his own interests at the expense and damage to the public.

"We hear much these days of the rights of organized labor, but we hear little of the rights of the general public, who, in the final analysis, bear the burden and pay the sacrifice demanded by the senseless strike.

"Organized labor wishes to continue its mad orgy of applying the rule of force for the settlement of its demands. What is there so sacred about organized labor that it cannot submit its grievances to a legally constituted tribunal of the Government for adjudication?

"Why should not organized labor be required to meet the rest of us on common ground and submit itself to the same authority that governs us?

"I do not believe in class legislation or class exemption. When the railroad brotherhood chiefs came here and applied their 'strong arm' methods to secure passage of the Adamson bill, I was one of those who opposed their program. It was essentially class legislation in the interests of a well-organized and highly efficient group of men.

"It has been suggested that no antistrike legislation can be enforced. The history of our country, replete with accomplishment and progress, is sufficient answer to those who say that any law can not be enforced.

"I have no quarrel with the legitimate aims and purposes of organized labor. I would not propose for it a law that would not apply with equal force to any and all other factions or elements, nor would I be willing to grant special privileges to or-

ganized labor or any other group or faction of our people. I am opposed to special privilege in all its forms, and believe in equal rights and equal obligations for all men."

The *Railway Age* prints an interesting little article from *Judge* as an illustration of what will take place at a meeting of the Board of Directors of the Nationalized Railways when the "Plumb Plan" is adopted:

"At a meeting of the board of directors of the National Railways of America, January 1, 1925, the following members were present: Representing the public, one; representing the employees, ten.

The following business was transacted: Brother Janis, representing the employees as a whole, moved that a general wage increase of 25 per cent be adopted, effective January 1, 1920, all back pay bearing interest at 6 per cent compounded semi-annually; and to provide the funds necessary to meet this increase such advances be made in freight and passenger rates as will be required. Resolution adopted: Yeas, 10; nays, 1.

Brother Smith, representing the trainmen, moved that Brother Barleycorn, who was dismissed on the X. Y. Z. Railway in 1918 for drinking on duty, be reinstated with full seniority rights and full pay from date of dismissal to time of resuming duty and with interest at 6 per cent compounded semi-annually, and that the officers who disciplined Brother Barleycorn be summarily dismissed from the service and shall not again be employed on the National Railways during their natural life. Carried: Yeas, 10; nays, 1.

Brother Leisure, representing employees at large, moved that the original plan of the Government to buy the railroads for twenty billions of dollars by assessing each of the 100,000,000 people \$200; that the \$200 assessed to each of the 1,000,000 employees be returned to them and the public other than railway employees be made to pay this amount into the treasury; also that the original plan to divide the surplus equally between the employees and the Government be changed and that the employees hereafter are entitled to all the surplus, as labor alone produces the surplus. Motion carried: Yeas, 10; nays, 1.

Brother Carr, representing the trainmen, offered a resolution that all freight trains be hereafter limited to twelve cars in order that the number of crews be increased owing to reduction in traffic and in order that this be accomplished that the committee on equipment be instructed to purchase the necessary additional locomotives to accomplish this result. Carried: Yeas, 10; nays, 1.

Chairman of the Board Rack offered a resolution that hereafter the board of directors meet twice a week, that absent members be paid their fees, and that the fees be increased from 20 to \$50 for each meeting of the board.

Brother Straight of the trainmen offered a resolution that each freight train be provided with a Pullman car, including buffet, and that a chef and waiter and porters be provided, and that all equipment and supplies, including food, be purchased by the railways. Carried unanimously, the public director having left the meeting to attend a political meeting.

Brother Jones offered a resolution that special agents be appointed whose duty it shall be to report each case of employees doing anything outside of the specified duty, a second offense to meet with prompt dismissal. Carried.

The board considered the results of operation for the year 1924, which was as follows:

Miles operated	300,000
Gross earnings	\$3,000,000,000
Expenses	3,500,000,000
Deficit	500,000,000

A resolution was offered that inasmuch as no surplus was earned and whereas it requires as much effort on the part of employees to make a deficit as a surplus, that the employees be voted a bonus of 10 per cent, on the deficit, making the sum of \$50,000,000 to be distributed among the employees and that an increase in freight and passenger rates be made to meet the requirements. Carried: Yeas, 10; nays, 1.

The *Statesman* of *Boise, Idaho*, has the following to say regarding the labor situation:

"Now that it is generally admitted that the continuous wage increases in important industries serve only to further accelerate the increase in the cost of living, some curious compromises are being made, which at best will furnish only a temporary basis for operations.

"In New York State, for instance, the commission appointed by Governor Smith has awarded a 15 per cent increase in pay to garment workers. One of the conditions on which the award is based is that this advance in wages shall not be followed by an increase in the price of clothing, but shall be met by increased production by the workers, and by new economies on the part of the manufacturers. Acceptance of an award of this kind by both sides constitutes a practical admission that the workers have not been producing to the maximum of their capacity, and that the manufacturers have either been making undue profits or else that they have been so careless in their operations that they have wasted a sum

equivalent to that which will be paid out in wage increases.

"The New York garment makers' agreement is interesting in that it protects the public from an immediate increase in prices, but the public will be interested to know what will be done the next time the workers ask for more pay, if by that time labor's production is at a maximum and the margin of profit for the manufacturers is at a minimum."

AUDITING OF TAX RETURNS BRINGS HUGE RETURN TO U. S.

Through an audit of back income and war profit taxes the Internal Revenue Bureau of the Treasury Department has collected \$200,000,000 of back taxes and anticipates the collection of an additional billion or billion and a half.

Internal Revenue Commissioner Roper and J. H. Callan, his assistant, explained the matter in recent testimony before the House Appropriations Committee in connection with estimates of appropriations required to make the audit.

Auditing of returns up to \$5,000 are handled by the revenue collectors, amounting in number to about 2,750,000, while one million returns, of larger value and complicated nature, are audited in Washington. The last revenue law, said Mr. Roper, instead of simplifying the bureau's problem, incorporated relief provisions which involve valuation and other problems requiring months of study and research. It involved among other things the value of lands, forests, mining and oil properties, plants, machinery, property and goods. Under the law of February 24, 1919, the bureau secured an appropriation of \$7,500,000 to audit old returns, running back to 1909. The audit has been completed up to the 1917 returns. The bureau is now consolidating the auditing of returns for 1917 and 1918. The audit to date has netted the Government a revenue of \$200,000,000.

The audit has shown errors both ways. It has adjusted items both in the interest of the Government and of the taxpayer. The plan is to complete the audit within the next year, so that the taxpayer may know his liability and receive any money due him or the Government receive money due it.

Under the method worked out by the bureau for the audit of these large returns the directors of large business enterprises will be furnished at the earliest possible time the basis on which they can reckon with the Government in the future and project their plans with certainty, command the confidence of bankers, and furnish the Government tax returns which will require less technical attention. There are returns concerning which special field examinations

have been made and reports of additional tax liability made by agents. In many of these cases such technical questions as are involved in valuations, depletion, depreciation and amortization make it difficult to determine the exact tax liability. It will require many months to satisfy taxpayers on these technical questions.

The Commissioner believes the Government should receive interest on these back taxes. He has decided to hurriedly examine and review the field agents' findings, give the taxpayer a further opportunity to be heard through a 30-day notice of a proposed assessment of additional taxes, thus giving him in effect a 40-day notice of this tax liability and permit him to file or appear in person and present additional facts. After the tax is assessed the taxpayer will have his legal right to file a claim in abatement and have the matter again reviewed, but the advantage to the Government will be that the interest will accrue to the Government on the amount of additional tax which is finally found to be due.

Mr. Roper said some taxpayers would contend that the Government should defer assessing these taxes until all disputed questions are settled, but he did not believe this could be maintained against the Government in its present war emergency. His analysis showed that in the returns now in hand there is lodged for the Government about a billion and a half dollars that ought to be gotten into the Treasury in twelve months' time. Returns will be audited in the order of their size and importance. About two-thirds of the unassessed taxes are in a group of about 15,000 returns. These are the so-called consolidated returns of corporations of all kinds which have many subsidiary companies, to the number of 5 to 20 per return. In this group of 15,000 returns the bureau expects to find the greater part of the additional taxes due. The work of audit will require about 750 experienced men who understand the complications of consolidated returns. The audit will determine tax liability and relieve uncertainty that is oppressive to the country and to the particular taxpayers. All leading industries are involved in these consolidated returns. They will be considered in the order of their fiscal and economic importance. The cost of the audit would be about three million dollars, the pay of auditors being from \$4,000 to \$6,000 a year.

Mexico has found that hoarding of silver coins has taken place, with a consequent shortage of silver change. This has led to the government's imposition of strict limitations upon silver exportations, which specify that 50 per cent of the bullion produced may be purchased by the government and not more than 50 per cent of production may be exported.—Bureau of Mines.

TRANSPORTATION

Under this heading THE MINING CONGRESS JOURNAL will hereafter carry a concise review of various orders, opinions and reports affecting freight rates throughout the country issued by the Interstate Commerce Commission and the Railroad Administration or any organization that may be made by law to succeed in any way to the functions of these two departments. The purpose is to get before our members the principal government mandates which affect our commodities, with a view to eliciting inquiries. It is not practicable to include much detail, but we are so equipped that we can give, upon inquiry, a full and complete analysis of any of the traffic problems which are brought to our attention. We hope that this chapter will be of interest and that you will advise us of your problems in order that we may give to each one the personal and complete attention which it cannot have in a review of this character.

Decisions of the Interstate Commerce Commission

Coal. In a case brought by the Utilities Development Corporation et al, the commission has found a rate of 70 cents per net ton on run-of-mine bituminous coal, in carloads, from Bicknell, Ind., to Edwardsport, Ind., initiated by the Director General of Railroads, unreasonable to the extent it exceeded 40 cents per net ton. Reparation is awarded.

In the Plymouth Coal Company case the commission has found rates on anthracite coal, carloads, from Plymouth, Luzerne, and Kingston, in the Wyoming coal region of Pennsylvania, to South Amboy, N. J., f. o. b. vessel for transshipment, to have been unreasonable from April 9, 1910, to March 31, 1916. A similar finding is made as to the rates from the same points to New York lighterage station, N. J., f. o. b. vessels, to the extent that the rates exceeded, per ton of 2,240 pounds, \$1.45 on prepared sizes and \$1.35 on smaller sizes. Reparation is awarded. The maintenance of the rates under attack, as compared with rates contemporaneously in effect from other anthracite coal regions to tidewater, not shown to have resulted in undue preference or undue prejudice.

New Complaints

Docket No. 11180—Empire Refineries Co., Tulsa, v. A. T. & S. F. et al.

Filed January 26 against unjust and unreasonable rates on *refined oil* from Cushing to Vaughn, N. M.

Asks for reasonable rates and reparation.

Docket No. 11185—Union Petroleum Co., Philadelphia, v. Fort Worth & Denver City et al.

Filed January 26 against a rate of 52.5 cents on *gasoline* from Iowa Park, Tex., to Westwego, La., for export, as unjust and unreasonable because in excess of a rate of 24.5 cents, which was the legal rate in effect when a pretended cancellation was made under General Order No. 28.

Asks for reparation.

Docket No. 11186—Shaffer Oil and Refining Co., Chicago, v. M., K. & T. et al.

Filed January 26 against a rate of 19.5 cents on *gas oil* from Cushing, Okla., to Neodesha, Kan., as unjust and unreasonable.

Asks for a rate of 14.5 cents and reparation.

Docket No. 11190—Perry County Coal Corporation et al, v. Director General et al.

Filed January 24 against unjust and unreasonable rates on *coal* from complainant's mines in the Belleville (Ill.) Group to points of destination on the Mississippi River & Bonne Terre Railway.

Asks for the establishment of joint through rates and reparation.

Docket No. 11192—The Lehigh Valley Light & Power Co. v. Director General et al.

Filed February 6; attacks as unjust and unreasonable a rate of 40 cents per ton assessed for switching of *anthracite boiler fuel* from various nearby points to Hauto, Pa.

Reparation is prayed for.

Docket No. 11195—Ohio Cities Gas Co., Columbus, Ohio, v. Central of New Jersey et al.

Filed January 30; attacks as unjust and unreasonable rates on *spent sulphuric acid* or *sludge acid* from Cabin Creek Junction, W. Va., to Carteret, N. J.

Asks for reparation down to the basis of a rate of 28.5 cents established December 15, 1919.

Docket No. 11196—Ohio Cities Gas Co., Columbus, Ohio, v. B. & O. et al.

Filed January 30 against unjust and unreasonable rates on *petroleum and its products* from Cabin Creek Junction to Minneapolis.

Asks for just and reasonable rates and reparation.

Docket No. 11202—Seaboard By-Product Coke Co. v. Director General.

Filed January 31 against the sixth-class rate of 7 cents on *coke* from Wharton, N. J., to Nepcong, and of 9 cents to Kearny Junction, as unjust and unreasonable.

Asks for a rate of \$1.10 per net ton and a re-consignment charge of \$5 and reparation.

Docket No. 11206—Royal Bank of Canada, Hamilton, Ontario, assignee of D. A. Brehner, Ltd., v. S. A. L. et al.

Filed February 2 against unjust and unreasonable rates on *bauxite ore* from Richland, Ga., to Hamilton, Ontario.

Asks for reparation.

Docket No. 11218—Wilbur Lumber Co., Milwaukee, v. P. C. C. & St. L. et al.

Filed February 5 against unjust, unreasonable and unduly discriminatory rates on *coal* from mines in Illinois to Illinois destinations.

Asks for reasonable rates and reparation.

Docket No. 11219—Sinclair Refining Co., Chicago, v. A., T. & S. F. et al.

Filed February 7 against unjust and unreasonable rates on *sludge acid* from points in Kansas and Oklahoma to Coffeyville, Kans., for treatment for the recovery of sulphuric acid prior to December 2, 1918.

Asks for reparation down to a basis of 10 cents to June 25, 1918, and 12.5 cents since that time.

Docket No. 11224—Chicago Coal Merchants Association v. A., T. & S. F. et al.

Filed February 7 against the practice in Chicago of making terminal delivery charges on *coal and coke* while assessing the flat Chicago rates against other commodities as unjust and discrimination against coal and coke.

Asks for flat rates and reparation.

Docket No. 11225—Lawton (Okla.) Refining Co. v. C., R. I. & P. et al.

Filed February 9 against a rate of 9 cents on *crude oil* from Junction City, Okla., to Lawton, Okla., as unjust and unreasonable in comparison with a subsequently established rate of 7 cents.

Asks for reparation down to the 7-cent rate, amounting to about \$4,800.

Docket No. 11230—F. C. Mintzloff et al v. Director General, Santa Fe, et al.

Filed February 16 against unjust and discriminatory rates on *coal* from mines on lines of defendants to various points in Illinois and Wisconsin because of absence of through rates.

Prayer is for joint through rates and reparation.

Docket No. 11231—Suzuki & Company v. Director General et al.

Filed February 14 against unjust and unreasonable rates on *pig iron* shipped from Birmingham, St. Louis, Chicago and Wharton, N. J., to Seattle for transshipment to Japan. Allegation is made that rates assessed exceeded the rates on iron and steel articles.

Reparation of over \$25,000 is prayed for.

Docket No. 11232—Lodwick-White Coal Company, Mystic, Iowa, et al v. C., B. & Q. et al.

Filed February 9 against unjust and unreasonable rates applying on *coal* from mines on line of Iowa Southern Utilities Company, to Kansas, Nebraska, Missouri and Colorado points.

Asks just and reasonable rates.

Docket No. 11159 (Sub. No. 1)—Home Petroleum Co., Oklahoma City, v. A., T. & S. F. et al.

Filed February 11 against unjust, unreasonable and prejudicial rates on *crude petroleum* from points in the Burkburnett, Ranger and Shreveport groups to Oklahoma City, rates being said to favor Okmulgee, Sapulpa, Cushing and points in Missouri and Texas.

Asks for reparation amounting to \$20,000 and just and reasonable rates.

Docket No. 11237—W. H. Daugherty & Son Refining Co., Petrolia, Pa., v. Director General et al.

Filed February 16 against unjust and unreasonable rates on *petroleum products* from Petrolia, Pa., to Memphis, Tenn.

Asks for just and reasonable rates and reparation.

Docket No. 11244—Producers Refining Company v. Director General, I. C. R. Co. et al.

Filed February 19; attacks alleged unjust and unreasonable demurrage charges on *naphtha* shipped from Gainesville, Tex., to Louisville, Ky., and returned to Gainesville.

Asks for reparation.

Docket No. 11246—Southern Carbon Co., Monroe, La., v. Alabama & Vicksburg et al.

Filed February 17 against unjust and unreasonable rates on *liquefied petroleum gas* from points in Louisiana to interstate destinations by reason of the absence of joint rates.

Asks for just and reasonable joint rates and reparation.

Docket No. 11249—Ludlow Manufacturing Associates, Ludlow and Boston, Mass., v. Philadelphia & Reading et al.

Filed February 24 against unjust and unreasonable rates on *barley or culm coal* from mines on the Philadelphia & Reading to Ludlow.

Asks for cease and desist order and reparation.

Docket No. 11253—Pittsburgh Terminal Railroad and Coal Co., Pittsburgh, Pa., v. P. R. R. et al.

Filed February 24 against unjustly discriminatory rates on coal from mines of the West Side Belt Railroad between Pittsburgh and Clairton, to destinations east of Harrisburg, through the failure to make joint rates from them; also because unjustly discriminatory in that the mines which have an advantage east of Harrisburg are able to reach markets west of Pittsburgh on the same terms as mines on the West Side Belt.

Asks for reasonable rates not higher than those from Westmoreland and Greensburg groups, to destinations east of Harrisburg.

Tentative Reports

Docket No. 10865—Frank Coakley et al v. Director General et al.

A tentative report in this case has been proposed by Attorney-Examiner R. E. Quirk, the syllabus of which is as follows:

"Rates exacted for the transportation of anthracite coal in carloads from the Carbondale district in Pennsylvania to South Utica, N. Y., for delivery on the West Shore Railroad found to have been and to be relatively unreasonable and unduly prejudicial to the extent they exceeded or may exceed the rates contemporaneously in effect from the Carbondale district to Utica, N. Y. Reasonable and non-prejudicial rates prescribed. Reparation awarded."

Docket No. 10778 (and Sub. No. 1)—The 85 Mining Company v. A. & N. M. Ry. Co. et al.

A tentative report in this case has been proposed by Examiner Harris Fleming, the syllabus of which is as follows:

"Rate of 55 cents per 100 pounds charged on tank-carloads of fuel oil from Shale and Kerto, Cal., to '85 Mine,' N. Mex., found to have been unreasonable to the extent that it exceeded 40 cents. Reparation awarded."

Docket No. 10675—Constantin Refining Co. et al v. Director General et al.

A tentative report in this case has been proposed by Examiner F. H. Barclay, the syllabus of which is as follows:

"1. Rates on petroleum and its products, in carloads, from Devol, Frederick and Altus, Okla., to points to which rates on the same commodities were fixed in *Midcontinent Oil Rates*, 36 I. C. C., 109, found unreasonable and unduly prejudicial to the extent that they exceed the rates prescribed in *Western Petroleum Refining Association v. Director General et al.*, Docket No. 10511, from Burkhurnett and Wichita Falls, Tex., and points grouped therewith to the same destinations.

"2. Rates on those commodities, in carloads, from Devol, Frederick and Altus to points in Texas found unreasonable and unduly prejudicial to the extent that they exceed the rates on the same commodities contemporaneously ap-

plicable from Shreveport, La., to Texas points for like distances."

Docket No. 10643—Lukens Steel Company v. Director General et al.

A tentative report in this case has been proposed by Examiner J. T. Money, the syllabus of which is as follows:

"Rate on bituminous coal in carloads from certain points in West Virginia to Coatesville, Pa., not shown to have been unreasonable. Complaint dismissed."

Docket No. 10918—Thomas Iron Company v. Director General.

A tentative report in this case has been proposed by Examiner T. M. Woodward, the syllabus of which is as follows:

"Rate of \$1.65 per net ton on coke from Seaboard, N. J., to Hellertown, Pa., found not unreasonable. Complaint dismissed."

Docket No. 10782—Alden Coal Company v. Rock Island Southern Railway Company et al.

A tentative report in this case has been proposed by Attorney Examiner W. A. Disque, the syllabus of which is as follows:

"Rates on coal, in carloads, from Matherville to Hopewell, Ill., initiated by the Director General, found unreasonable. Reparation denied because of the legal absence of the real party in interest."

Docket No. 10729—New York and Pennsylvania Company v. Director General et al.

A tentative report in this case has been proposed by Attorney Examiner C. F. Gerry, the syllabus of which is as follows:

"Rates of \$1.10 per gross ton for the transportation of bituminous coal, carloads, from the Snow Shoe, Grass Flat, Munson and Hawk Run districts of central Pennsylvania applicable via the lines of the New York Central and Pennsylvania Railroads to Lock Haven, Pa., not found to have been or to be unreasonable, unjustly discriminatory or unduly prejudicial. Complaint dismissed."

Docket No. 10787—Parlin & Orendorff Company v. Director General et al.

A tentative report in this case has been proposed by Examiner F. H. Barclay, the syllabus of which is as follows:

"Rates of \$3.45 and \$3.40 per net ton charged on carload shipments of bituminous coal between September, 1918, and February, 1919, from Yamacraw and Worley, Ky., via Peoria, Ill., to Canton, Ill., found to have been unreasonable to the extent that they exceeded the present rates of \$3.25 and \$3.15 per net ton, respectively. Reparation awarded."

Docket No. 10846—Old Ben Coal Corporation et al v. Director General et al.

A tentative report in this case has been proposed by Examiner J. Edgar Smith, the syllabus of which is as follows:

"It is proposed that the commission find

"Combination rates on various shipments of coal from West Frankfort and Christopher, Ill., to West Allis, Wis., in effect prior to December 16, 1918, were unreasonable to the extent that they included double increases under the Fifteen Per Cent Case and General Order No. 28. Reparation awarded and under charges waived."

Docket No. 10847—Oklahoma Producing & Refining Corporation of America v. Director General et al.

A tentative report in this case has been proposed by Examiner H. B. Armes, the syllabus of which is as follows:

"Proposed recommendation:

"Rates on empty tank cars on their own wheels from Harvey, Ill., to Muskogee, Okla., found to have been and to be unreasonable and unduly prejudicial. Reasonable rates prescribed. Reparation awarded."

Docket No. 11010—Thomas Iron Company v. Director General et al.

A tentative report in this case has been proposed by Examiner T. M. Woodward, the syllabus of which is as follows:

"Rate of \$1.30 per net ton on coke from Seaboard, N. J., to Hokendauqua, Pa., found not unreasonable. Complaint dismissed."

Docket No. 10821—United Verde Extension Mining Company v. Director General et al.

A tentative report in this case has been proposed by Examiner Harris Fleming, the syllabus of which is as follows:

"Rate on infusorial earth, in carloads, from Lompoc, Cal., to Clarkdale, Ariz., found unreasonable. Reparation awarded and maximum reasonable rate prescribed for the future."

Docket No. 10984—Atlantic Refining Co. v. Director General et al.

A tentative report in this case has been proposed by Attorney Examiner R. E. Quirk, the syllabus of which is as follows:

"1. The fact that certain rates on petroleum naphtha were voluntarily readjusted since June 25, 1918, causing reductions and increases, does not of itself justify the presumption that the rates established June 25 were unreasonable.

"2. Rates legally applicable on petroleum naphtha from Crichton, La., to Pittsburgh, Pa., found to have been unreasonable to the extent they exceeded the aggregate of the intermediate rate of 54 cents between June 25 and August 1, 1918, and 47.5 cents after August 1, 1918. Reparation awarded and reasonable rates for the future prescribed."

Docket No. 10779—E. I. du Pont de Nemours & Co. v. Director General et al.

A tentative report in this case has been proposed by Examiner E. L. Gaddess, the syllabus of which is as follows:

"It is recommended that the commission find:

"Rates charged for transportation of 10 carloads of bituminous coal originating at mines in

Pennsylvania and West Virginia shipped to Philadelphia, and thence reshipped to Carneys Point, N. J., not found to have been unreasonable. Complaint dismissed."

Docket No. 10855—Empire Refineries, Inc., v. Director General et al.

A tentative report in this case has been proposed by Examiner H. B. Armes, the syllabus of which is as follows:

"Proposed finding:

"Rate of 19.5 cents per 100 pounds on gas oil, in carloads, from Ponca City, Okla., to Neodesha, Kans., found to be unreasonable and unduly prejudicial. Reasonable maximum rate of 14.5 cents prescribed for the future."

Docket No. 10956—Atlantic Refining Co. v. Director General et al.

A tentative report in this case has been proposed by Examiner Royal McKenna, the syllabus of which is as follows:

"Rate on petroleum lubricating oil, in tank cars, from Cabin Creek Junction, W. Va., to Philadelphia, Pa., not shown to have been unreasonable, unjustly discriminatory or unduly prejudicial. Reparation denied and complaint dismissed."

Docket No. 10863—Charleston Ore Company v. S. A. L. Ry. Co. et al.

A tentative report in this case has been proposed by Examiner Royal McKenna, the syllabus of which is as follows:

"Rate on pyrites cinders, in carloads, from Wilmington, N. C., to Charleston, S. C., found to have been unreasonable. Reparation awarded."

Docket No. 10960—Frank Samuel v. Director General and Philadelphia & Reading Ry. Co.

A tentative report in this case has been proposed by Examiner Royal McKenna, the syllabus of which is as follows:

"Rate on a carload of chrome ore from Pottsville, Pa., to Conshohocken (East), Pa., found to have been unreasonable. Collection of outstanding under charges waived. Complaint dismissed."

Petition For Rehearing

Docket No. 8909—Canton Chamber of Commerce v. Pennsylvania Co. et al.

A petition for rehearing of this case has been filed for defendants by James Stillwell, W. N. King and W. A. Parker. The commission in its opinion held: That rates via the lines of the Pennsylvania Company for the transportation of bituminous coal from Pittsburgh and Connelville districts in Pennsylvania subjected Canton, Ohio, to undue prejudice and disadvantage and unduly preferred Youngstown and Cleveland, Ohio.

The grounds for rehearing are:

1. Many changes occurred in the rates between the date case was submitted and the date decision was reached, a period of nearly three years. The changes were brought about by the

Fifteen Per Cent Case and General Order No. 28, and other subsequent readjustments, the last one having been made after agreement with shippers. The defendants desire now to introduce this agreement.

2. That the commission has erred in finding prejudice to exist against Canton because no consideration was given to any line entering Canton except the Pennsylvania, when the fact is that several other lines handle a large part of the Canton coal business. Further, the commission considered Canton proper by itself when it should have considered the Canton group, and did not take proper notice of distances.

Miscellaneous Orders

Released Rates Order No. 98—Ore and Concentrates, in Carloads, from Okanogan, Wash., to Tacoma, Wash., Grand Forks, B. C., and Northport, Wash. This order, entered February 14, authorizes the Great Northern Railroad in response to 20th Section Application No. 118, to establish, upon not less than ten days' notice, and maintain rates on ore and concentrates in carloads, dependent upon value declared in writing by the shipper or agreed upon in writing as the released value of the property.

Fourth Section Order No. 7596—Coal from Mines in West Virginia. This order, entered February 17, is responsive to Application No. 11424 of the Baltimore & Ohio Railroad, filed by Agent Cook for various carriers. It authorizes the petitioners to establish rates on bituminous and cannel coal, carloads, from stations on the B. & O., Charleston Division (formerly Coal & Coke Railroad), Milliken, W. Va., to Burnsville, W. Va., inclusive; to stations on the B. & O. (Southwest Division), Cincinnati, Ohio, to Madisonville, Ohio, inclusive, also Sedamsville, Ohio, via Charleston, W. Va., Kanawha & Michigan Railroad and Grosvenor, Ohio, the same as the rates contemporaneously in effect on like traffic from stations on the line of the Kanawha & Michigan Railroad in West Virginia, to the same destinations, and to maintain higher rates to intermediate points on the B. & O. (Southwest Division) west of Grosvenor, Ohio, provided that the rates of said intermediate points shall not exceed the rate to Cincinnati by more than 20 cents per ton of 2,000 pounds.

Ex Parte No. 69—Rates between Official Classification Territory and the South. My attention has been called to copy of a letter written February 10 by the chairman of the Interstate Commerce Commission to the Director General of Railroads. Ex Parte No. 69 was an investigation of the above rates for the purpose of advising the Director General regarding the commission's decision in the Fifteen Per Cent Case. The

Director General was first advised "That the established differentials should be maintained and that the joint through rates to and from the south should not be increased by more than the increases specifically allowed by the order of the commission in the Fifteen Per Cent Case, which increases applied only to the earnings accrued to the northern lines whether they be locals, proportionals or specifics." Subsequently the Director of Traffic submitted a new basis of rates, and the commission now advises him that they cannot be completely checked in time to be of any service to the Administration, but that from such examination as has been made it appears that some of the rates are not increased as they were permitted to be increased in the Five Per Cent Case. In other words, permission is now asked to increase the old rates by 5 per cent and then add the 15 per cent authorized in the Fifteen Per Cent Case. This interpretation is said to be wrong. The northern carriers are permitted an increase of 15 per cent on the traffic involved whether the rates are local, proportional or specific. These increases must not violate the Fourth Section and must be made through proper tariffs.

Earnings

The Report of the Director General to the President shows that during the twenty-six months of federal operation of railroads there has been a net loss to the Government of approximately \$854,423,434, in addition to a sum of \$1,031,899,451, which is the total of items of indebtedness and investment. This latter sum, in the course of events, should be returned to the Government. To date, including provisions in the new Transportation Act which the President has approved, Congress has appropriated \$1,450,000,000, so that an additional appropriation of nearly \$500,000,000 will have to be made by Congress in order to close up affairs of the Railroad Administration.

Railroad Administration

The Director General has been very busy during the month of February winding up affairs in order that the roads could go back to their owners on March 1. The changes in personnel occur mostly in the Washington office and the Divisions of Operation, Traffic, Labor, and Public Service were the first ones to be eliminated, whatever remains of their duties having been turned over to the new Division of Liquidation Claims, headed by Max Thelan, formerly Director of Public Service. The Law and Accounting Divisions will continue to function, and the Director General will remain until about May 1, at which time he expects to resume practice of the law. The labor problems remaining unsettled are to be in

the direct charge of two assistants to the Director General, Mr. C. S. Lake and Mr. J. A. Franklin, who will handle labor matters in connection with the Railway Boards of Adjustment and the Director General. The Director General of Railroads has been directly authorized by the President to carry on the duties of the Fuel Administrator. This authority was delegated to him by Mr. Garfield some time ago, but since the question has been raised the President has now given him the authority direct.

STUDY OF VEHICULAR TUNNEL CASES WOULD AID MINING

George S. Rice, Chief Mining Engineer, Bureau of Mines, recently before the Senate Appropriations Committee discussed the question as to whether the bureau was within its scope in carrying on investigations relating to studies of gases in vehicular tunnels. The organic act establishing the bureau called upon it to investigate methods of mining with special relation to health and safety, with sanitation involved. Inquiry came very early to the bureau in connection with the toxic effect of carbon monoxide gas encountered in mining work, in the use of explosives and in rescue and other operations following explosions. The proposition was also put up by the inspection departments of a number of states as to the safety of miners in the use of gasoline in locomotives underground, and an investigation was made on that phase. The gasoline locomotives used underground are essentially the same type of internal-combustion engines as those used on trucks and automobiles, and any investigation which would produce information about the extent of toxic gases given off and the effect upon health would be of great advantage to the bureau, whether conducted in a laboratory, a test chamber, or anywhere else.

Mr. Rice said most of these tests could not be actually conducted in a mine because the conditions in the mine could not be controlled as in some artificially constructed chamber.

The bureau early found that it could not get very direct information as to the effect of gases upon health and were obliged to rely upon some early tests made in England, mostly relating to the presence of large amounts of carbon monoxide in the air.

In the investigations of the bureau about smelters and in mines, cases have been encountered where men were exposed to small quantities of carbon monoxide, and the question was to what extent they had been affected. In certain instances it was recommended to the bureau that gasoline locomotives and pumping engines should be removed from certain mines and tunnels in order to make the air safe for men to breathe. These requests came from the in-

spection departments of states in many instances.

The immediate emergency came in this manner through the tunnel which is now being projected under the Hudson River between New Jersey and New York and another tunnel which is about to be constructed in Pittsburgh, both to be used by trucks and automobiles. One is also projected in New Orleans.

Tunnel investigations were apparently new and had to do with the effect of breathing small quantities of carbon monoxide over long periods by policemen and traffic men.

Mr. Feltner, supervising chemist of the bureau, has had charge of the practical features of this work and has found that starters in the Grand Central Station in New York have been affected by the gasoline fumes in the covered way.

Chairman Warren thought this was a public health matter and that the Public Health Service would ask for the same work. Mr. Rice explained that the Mines Bureau is in cooperation with the Public Health Service and its Dr. Sayres has by detail been made chief surgeon of the Bureau of Mines, his salary being paid by the Public Health Service and his traveling expenses by the Bureau of Mines. The bureau also has four other surgeons at present detailed to their mine rescue cars from the Public Health Service.

Direct request had been made on the Interior Department by the authorities constructing the tunnel to have the investigation made. The New York and New Jersey Commissioners were paying about two-thirds of the expense.

Senator Calder, N. Y., said a representative of the commission came to him last October and explained that there was no other place where the information could be obtained as accurately and speedily as through the Bureau of Mines. It was not fair that New York and New Jersey should bear all the expense of an investigation the results of which would be valuable for such construction hereafter and for other tunnel construction. The tunnel would cost between twelve and fourteen million dollars and would be a great national highway purely for vehicles. It had not been determined whether the tunnel should be free of tolls. But there was no tunnel in the country more important for the uses of the country. It could carry mail, coal, troops, etc.

Pig Iron Exports Drop

The exports of pig iron for December dropped 32 per cent compared to the November figures. Total exports of pig iron for the year amounted to about 313,320 tons.

Bureau of Mines

PATENTS

CONDUCTED BY JOHN BOYLE, JR.

1,326,908—*Samuel H. Boylan*, Joplin, Mo.

Hydraulic Classifier provided with means within the apparatus for maintaining the level of the bed of crushed rock or sand at a selected height, such means being operated by the weight of the bed. Also means for supporting the weight of the bed, thereby relieving the outlet valve of the load.

1,327,052—*Jacob M. London*, Tunnelton, Pa.; assigned to George M. Crawford and Emil M. Refor, Pittsburgh, Pa.

Coal Mining and Loading Machine provided with cutting mechanism in which the parts are so shaped and arranged on a traveling frame that the cutters may operate at any angle necessary. The cutting mechanism is mounted for movement so that a cut may be made equal to the width of the mine and of any depth necessary. Means are also provided for supporting the cutters at different heights so as to accommodate varying widths of the veins of coal. The cutters are also adjustable to a plurality of positions and vibration thereby prevented.

1,327,053—*Jacob M. London*, Tunnelton, Pa.; assigned to George M. Crawford and Emil M. Refor, Pittsburgh, Pa.

Coal Excavating and Loading Apparatus in which there is a carriage mounted for vertical and horizontal movements, and coal feeders swingingly connected to the carriage, and each including an upper and a lower rake device of different capacities.

1,327,491—*William S. Pierce*, Franklin, Pa.
Swage for Use in Oil Wells.

1,327,536—*Alexander T. Elliott*, Los Angeles, Cal.

Leaching Process for low-grade ores, using hydrochloric acid solution for the leaching agent, filtering, evaporating out the chloride from the filtrate, heating the chloride to decompose it, and using the chlorine vapor to reproduce the leaching solution.

1,327,537—*Guy H. Elmore*, Swarthmore, Pa.

Jig. The object of the invention is to equalize the water flow or pulsations in jigs having large screens, or in jigs having vertically offset screens, so that the jiggling action will be effective over the entire screen regardless of differences in the depth of the bed.

1,327,572—*Henry Ryan*, Boulder, Colo.; assigned to National Oil Machinery Corp. of New York.

Process of Recovering Bituminous Matter from Shale, consisting in digesting the shale in a closed retort with a body of heavy oil under the action of heat at a temperature insufficiently high to effect substantial distillation of heavy fractions, but high enough to effectively liquefy heavy hydrocarbons contained in the shale.

1,327,667—*Imbrosco D. Fish*, Portland, Oreg.

Amalgamator involving a container for holding a sodium tin amalgam, means for moving the ore through the amalgam at varying depths and in such a way that the different metals will assume a position in the amalgam according to their specific gravities.

1,327,691—*Albert M. Ballard*, Drummright, Okla.; assigned to Sun Co., Philadelphia.

Apparatus for Separating Oil and Gas Direct from the Wells.

1,327,781—*Samuel K. Scholes*, Beaver, Pa. and *Ralph F. Brenner*, Rochester, Pa.; assigned to J. Howard Fry, Rochester, Pa.

Process of Extracting Potassium from Potash Bearing Minerals.

1,327,782—*Samuel K. Scholes*, Beaver, Pa.; assigned to H. C. Fry Glass Co., Rochester, Pa.

Process of Obtaining Combined Potassium from Minerals.

1,327,854—*William D. Bludworth*, Fair Oaks, Cal.

Rocking Cradle for placer mining.

1,327,868—*H. A. Herpst*, Norwat, Mich.
Mine Pump.

1,327,885—*Lincoln C. Stockton* and *Charles F. Goddard*, Denver, Colo.; assigned to the Metal Separation Co., Denver.

Concentrating Apparatus comprising a sluice having an opening in the bottom thereof, a readily removable tank positioned below said opening, means on the under side of said sluice to discharge water into said tank, and means to seal said tank against said under side of the sluice.

1,327,902—*Henry Bolthoff*, Denver, Colo.

Concentrating Table, the surface of which is covered with a relatively coarse metal mesh material, as wire screen.

1,327,913—*Howard R. Hughes*, Houston, Tex.

Rotary Boring Drill of the roller type for use in drilling oil wells in which the cutting or drilling operations are performed by means of rotary cutters, two of them being side cutters for drilling the periphery and a central cross roller for cutting the center of the bottom of the hole.

1,327,914—*Grancille A. Humason*, Houston, Tex.

Pump Piston for oil well pumps in which the wear in the piston and working barrel is remedied by the expansion of the parts of the piston so that a tight fit is maintained.

1,327,974—*Leslie W. Austin*, San Jose, Cal.

Treating Manganese Silver Ores to render them amenable to subsequent cyanidation, amalgamation, or flotation, which consists in aiting said ore with pyrites in the presence of sulphuric acid.

1,328,210—*George M. Shires*, Houston, Tex.

Apparatus for Extracting Sulphur from Ore, including a plurality of heater drums connected together and arranged one above the other, means for delivering ore thereto, means for introducing a heating fluid into said drums, and a separator arranged to receive the heated ore delivered from the drums, and provided with means to separate the refuse from the mineral therein.

1,328,325—*Arthur L. Hawkesworth*, Butte, Mont.

Drill having a detachable bit, with a particular construction of interlocking means between the bit and shank.

1,328,380—*Willbur G. Laird*, New York; assigned to Henry L. Doherty, New York.

Refractory Lining for furnaces comprising a heat-resisting backing and a non-fluxing refractory facing secured to said backing consisting of refractory locking blocks embedded in said backing and thin refractory plates held by said blocks.

1,328,438—*Mahlon E. Layne*, Memphis, Tenn.

Well Screen for straining the water or oil in wells and known in the art as wire wound or wrapped screen, wherein a perforated casing or tubing has spirally wrapped thereon a helix of screening wire, a section of the wire in cross-section being that of a truncated cone.

1,328,456—*James D. Ross*, Seattle, Wash.

Process and Apparatus for Ore Separation. An inclined table is employed against which a stream of pulp is continuously discharged, and this pulp is agitated and aerated by a fluid stream directed against it at a point above a body of water contained in a compartment for separation of the con-

centrates by the flotation process, or at a point below the surface of the water for separation by the wet process, the agitating or aerating stream being water, steam or air delivered from a nozzle or a mixture of water and elastic fluid delivered from an aspirator, and if desired the pulp may be mixed with oil or chemical, or the oil or mixed with oil or chemical, or the oil or chemical may be delivered with the jet of fluid from the nozzle or aspirator.

1,328,487—*Frank Billings*, Cleveland, Ohio.

Mine Loading Machine, including a mechanically operated ram supported on a wheel truck, a pair of jaws at the outer end thereof having bottom and side walls and movable in an approximate horizontal plane toward and away from each other, scraper members with respect to which the jaws are movable, the bottom and end edges of the scrapers extending adjacent to the said walls and maintaining such relationship during the opening movement of the jaws.

1,328,553—*Honzo D. Zimmerman*, Superior, Colo.

Miner's Lamp.

1,328,666—*William E. Greenwalt*, Denver, Colo.

Metallurgical Process which consists in treating ores of copper with sulphurous acid in the presence of a solution of copper sulphate to extract a portion of the copper, electrolyzing the resulting solution containing the copper as sulphate and sulphite to deposit the copper and regenerate the sulphuric acid, and then applying the regenerated sulphuric acid solution to the ore to extract the remainder of the extractable copper.

1,328,755—*Edmund C. Morgan*, Chicago, Ill.

Mining Machine of the short-wall type, in which cables are used for moving the machines to their proper places and for feeding them during operation. The winding drums are of large diameter, preferably of about the same diameter as the width of the mining machine.

1,328,778—*James B. Barbce*, Central City, and *Otto J. Cross*, Nederland, Colo.

Pulsating Jig.

1,328,806—*Peter C. Anderson*, Medford, Wis.

Crusher having a stationary jaw capable of adjustment, a movable jaw comprising a plurality of superimposed oscillatory members, links swingingly suspending the outer ends of said oscillatory members, from the frame, the inner ends of the members being toggle operated, to produce the crushing operation.

1,323,845—*Samuel W. Osgood*, Chicago, Ill.; assigned to *Nettie C. Kenner*, Chicago.

Process of Producing Flake Graphite consisting in subjecting kish to a rough separating operation, thereby separating most of the graphite flakes from said kish, removing the iron particles from the resulting graphite flakes, removing the gritty material from the resulting graphite flakes, and grading the graphite flakes by air flotation.

1,329,113—*Daniel Diver*, Calgary, Can.
Amalgamating Machine.

1,329,127—*Alfred A. Lockwood*, Merton Park, England.

Concentrating Ores. The process is carried out on a Wilfley table, the riffles being a conducting material and connected up alternately as positive and negative, electric currents pass through the pulp between the riffles evolving gas which adheres to and buoys certain of the components of the pulp relatively to other components.

1,329,171—*Robert S. Garry* and *Jerome G. Garry*, Jenks, Okla.

Strainer for Oil Well Pumps.

1,329,335—*John M. Callow*, Salt Lake City; assigned to *Pneumatic Process Flotation Co.*, N. Y.

Process and Apparatus for Ore Flotation consisting in causing the pulp to flow through a receptacle and form therein a pulp body of gradually increasing depth, delivering to the said pulp body at different horizontal planes bodies of air of different pressures, forming therewith bubbles, causing the bubbles to rise for varying distances through the pulp, adhere to and elevate the metalliferous particles, causing the metal-laden bubbles to flow laterally at approximately the top of the pulp, and collecting them and the concentrates thereby carried.

Copper Shipment to Japan Heavy in 1919

The shipments of copper to Japan during 1919 were unusually heavy. Ordinarily Japan is not a large consumer of American copper. Attention has frequently been called to the possibility of Japan entering extensively into the manufacturing of copper and brass material, a trade developed during the war. This is brought out by the comparatively large shipments of copper and, to a lesser extent, zinc. Approximately 70,000,000 pounds of copper were exported to Japan last year against only about 450,000 pounds in the previous ten years. The effort to capture the Asiatic trade in copper goods formerly held by Germany may be one incentive for these heavy purchases.—Bureau of Mines.

INDUSTRIAL NOTES

The Ben Franklin Coal Co. of West Virginia has contracted with *Jacobsen & Schraeder, Inc.*, of Chicago, for a complete new tippie to be built at their Moundsville mine. This tippie will include *Jacobsen* balanced horizontal screen and picking table, crushing and loading facilities for three tracks, belt conveyor and concrete storage bins.

The Tasa Coal Company of Pittsburgh, Pa., has contracted with *Jacobsen & Schraeder, Inc.*, Chicago, for the design and installation of a modern tippie for their stripping operation. This tippie will include retarding conveyor, *Jacobsen* balanced horizontal screen and picking table, crushing and loading facilities for loading on three tracks.

Heyl & Patterson, Inc., Pittsburgh, Pa., have awarded contract to *Jacobsen & Schraeder, Inc.*, Engineers, Chicago, for the design and furnishing of *Jacobsen* balanced horizontal screening equipment for the screening plant which they are constructing for the North Western Fuel Company of St. Paul.

Turn to Low Grade Ores

The reserves of high-grade ore in the Lake Superior region are yearly being reduced and the profitable utilization of low-grade ores is becoming more and more a problem of great commercial interest. The report that the Mesabi Iron Co. is now making an attempt to exploit the vast deposits of low-grade magnetite in the eastern portion of the Mesabi range is of unusual interest in this connection. The development of these deposits is similar in many respects to the problems connected with the operation of the low-grade "porphyry copper" deposits. The character and extent of the deposits of magnetite have been known for many years and these ores have long been recognized as a potential source for an enormous supply of low-grade raw material. Economical concentration of the ore, which runs from 15 to 40 per cent magnetite, will be performed through large-scale crushing, grinding, and magnetic separation, followed with a sintering of the product to make it suitable for the blast furnace. The magnetic log washer, which combines the advantage of a log washer and magnetic concentrator, will be used, while a sintering method based upon the use of Dwight-Lloyd machine is contemplated. The product, it is thought, will average 60 per cent or higher in metallic iron and will be a low-phosphorous bessemer material. Several tons of material will have to be milled to yield a ton of the commercial product.—Bureau of Mines.

PERSONALS

W. G. Swart, of Duluth, Minn., attended the meeting of the Iron Ore Producers at the Internal Revenue Department, held in Washington February 20, and was a caller at the offices of the Mining Congress.

Wm. P. Belden, of the Cleveland Cliffs Iron Company, Cleveland, Ohio, represented his company at the meeting of the Iron Ore Producers with the Industrial Unit of the Treasury Department, February 20.

Col. James Milliken, President of the Industrial Car Manufacturers Association of Pittsburgh, was in Washington during the month and called at the offices of the Mining Congress to discuss the work of the committee on the Standardization of Mining Equipment, upon which committee he is serving as a member of the sub-committee on Underground Transportation.

Carl Scholz, President of the Raleigh-Wyoming Coal Company of Charleston, W. Va., stopped in Washington, en route from New York, where he attended the meeting of the A. I. M. and M. E.

James F. Callbreath, Secretary of the Mining Congress, attended the meeting of the American Institute in New York, February 17, 18, and 19.

George H. Dern spent several days in Washington during the month, where he was the guest of J. C. Dick, formerly of Salt Lake City and now a member of the Industrial Unit of the Internal Revenue Bureau. After a visit to eastern points, including a trip to Poughkeepsie, where Mr. Dern's daughter is attending Vassar, he has returned to Salt Lake City.

George E. Holmes, author of "Holmes on Federal Income and Profits Taxes," was in Washington several days during the month, conferring with the Internal Revenue Department concerning tax matters.

R. C. Allen, vice-president of the Lake Superior Iron Ore Association, spent several days in Washington during the month. Dr. Allen is giving considerable attention to matters pertaining to the taxing of iron ore properties.

J. H. Holmes, of Boulder, Colo., is in Washington in behalf of the tungsten producers, and is making his headquarters with the Mining Congress.

George L. Pratt, who has been at the Willard several weeks and who appeared before the Committee on Mines and Mining, which has been considering the War Minerals Relief amendment, has returned to his home at Atlanta.

A. Cressy Morrisson, secretary of the International Acetylene Association, was a caller at the offices of the Mining Congress during the month.

John A. Davis, Governor of the Alaska Chapter of the American Mining Congress, after spending several months in Washington, left in February for Fairbanks. Mr. Davis is enthusiastic about the work of the Chapter, and anticipates a largely increased membership during the coming year.

Falcon Joslin, of Seattle and Fairbanks, Alaska, is spending considerable time in New York and Washington.

B. O. Pickard, district mining engineer for the Lake Superior region, has been transferred to the position of district engineer for the California-Nevada territory, with headquarters at Berkeley, Cal. The successor of Mr. Pickard in the Lake Superior District has not yet been selected.

F. W. DeWolf, state geologist of Illinois, was a visitor to Washington in February, and called on officials of the Bureau of Mines in connection with cooperative work being carried on by the state.

Abrasive Needs in Spain

Before the war Spanish needs for sand and emery paper and cloth were supplied mainly by Germany and England; but these sources were largely cut off during the war, and other sources were sought. Spain has one factory producing these materials, but the output is not only small but of very poor quality. Portugal formed the principle source of supply and still does, due to the present depreciated condition of Portuguese currency, but the product is unsatisfactory. Although material imported from the United States is higher in price, its quality is so much better that it will probably be substituted for Portuguese abrasives as soon as the currency situation becomes more normal, thus removing the great incentive for purchase in Portugal. It is stated that the normal consumption of the Province of Seville of sand and emery paper is 55,000 to 65,000 pounds and of emery cloth 11,000 to 22,000 pounds. This seems to be a desirable export market for domestic producers—U. S. Bureau of Mines, Reports of Investigations.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

THE PEOPLE'S DOLLAR

On another page of the JOURNAL is published an interview with Congressman Louis T. McFadden of Pennsylvania, chairman of the subcommittee of the Banking and Currency Committee of the House of Representatives, with reference to the bill which he introduced to protect the monetary gold reserve from industrial depletion. No more constructive analysis of this proposed legislation has previously been presented.

The gold excise and premium proposal has been before the public for some months, and many criticisms have been made as to the practicality of such legislation, which have arisen largely through misunderstanding. Congressman McFadden, in this interview, with his keen insight into banking methods and the intimate knowledge which he has of the banking and currency requirements of the nation, has set forth in the most succinct manner the advantages of this proposal as compared to others which have been considered to accomplish a like result.

Apprehension has been expressed that the provisions of this bill might be construed as an alteration of the monetary unit and create a premium gold market. Congressman McFadden sets at rest such criticism of the proposal, as follows:

Since this transaction is confined to the production and sales of gold as a commodity only, and without reference to its monetary use, it cannot in any way influence the monetary status of the metal. By this means, the jewelers and other consumers of gold will be able to obtain all of the gold that they require at the usual monetary price of \$20.67 an ounce. The excise is to be collected only upon the manufactured article as sold, and not upon the

bullion, which insures a free gold market in the United States.

This bill, therefore, if enacted, will be a protection to the gold standard and a safeguard in maintaining the monetary unit and a free gold market, all of which conditions, in the opinion of conservative financiers, are essential in preserving the monetary position of the United States as a creditor nation no less than in the maintenance of our domestic financial system.

Some have construed the \$10 premium to the producer of the new gold ounce as a subsidy to the gold-mining industry. Congressman McFadden makes proper disposition of this fallacy in the following manner:

The premium to be paid to the gold producer is not a subsidy, because the Government has been and is now subsidizing the consumers of gold in manufactures and the arts. The wholesale index price number of all commodities in 1919 was 212, as compared to 100 in 1914, which shows that had gold increased in price in conformance with all other commodities in the United States, the gold producer would have received for his 58.5 million-dollar production in 1919, \$65,500,000, or 112 per cent. more than the monetary price which he did receive. The excise to be imposed upon manufacturers of gold merely lessens the amount of this subsidy. The \$10 excise is equivalent to an increase of 50 per cent. in the price of the metal contained in manufactured articles, while all commodity prices have risen 112 per cent.; consequently, the excise offsets only 45 per cent. of the subsidy now in force and which, because of the fact that the Government sells gold to the trades at the original monetary price, must be and is being met by the producer. The bill merely creates the governmental machinery by which the consumer of gold in the trades may pay more nearly the cost of production for his raw material.

Mr. McFadden urges that this legislation be expedited, because of the need for protecting the monetary gold reserve from further excessive depletion by consumption in manufactures and the arts, and the present emergency which confronts the gold-mining industry. He realizes that every dollar's worth of gold which is removed from the monetary gold reserve lessens the gold cover of the Federal Reserve note, which on February 20 was but 47.4 cents to the dollar of Federal Reserve notes in circulation. It is obviously not in the interests of the people's dollar that gold from the monetary gold reserve should be withdrawn in excess of new production for use in manufactures and the arts.

This constructive legislation to safeguard the gold cover of our currency is in the interests of the entire people of the United States in protecting their employment by permitting more gradual deflation of our credit and currency structure. Too rapid contraction of currency would seriously disrupt the progress of industry and, therefore, affect the continuous employment of the people, a condition which should by all means be averted. This proposed bill will permit us to descend from the high ladder of credit and currency expansion without harm.

SAME OLD FIGHT

Governor Henry J. Allen of Kansas is the father of the finest industrial court movement in existence in America. This court is intended to, and probably will, put an end to labor strife in Kansas for a long time. It is a workable, and, to a fair-minded citizen, a fair and just court wherein may be adjudicated the differences of opinion between employer and employe. It provides justice for the employer, justice for the laborer and justice for the public. When the law was passed a large number of labor leaders agreed with Governor Allen that it was a good law, and there were evidences, and still are, that the wage-earning class appreciate the protection afforded in the new tribunal. However, the Kansas Federa-

tion of Labor has adopted the same old methods and has decided, and so announces, that the Kansas Industrial Relations Court must be eliminated, and that all those who favor the retention of this industrial court must be eliminated from Kansas politics. It even goes so far as to "pledge" the farmer vote against this tribunal.

OIL LEASING REGULATIONS

An instance illustrating in a startling way how easy it is for Federal administrative officers to depend too much upon their own judgment in the arrangement of administrative rulings has developed in connection with the promulgation of regulations controlling the operation of the recently passed Oil Leasing Bill. The oil business, especially the producing end, is a technical business at best—one which the public knows very little of and which the average Government employe knows only theoretically.

Shortly after the passage of the Leasing Bill the American Mining Congress, realizing that the technical and legal requirements of the law were apt to cause confusion, misunderstanding and costly errors or contests, addressed to the Secretary of the Interior the following communication:

In anticipation of the Presidential approval of the land leasing bill and the difficulty of framing rules and regulations for its administration, which will consider both the legal requirements of the bill and its application to the practical operations thereunder, we beg to offer the services of the American Mining Congress, should consultation be desired with those who are likely to work under its provisions.

Should you desire it, we will be glad to assemble committees representing the different minerals which will be affected by the bill, for the purpose of bringing to your department the more practical knowledge of the conditions which are to be met.

We trust you will understand that the purpose of this offer is in no sense a criticism of the working forces under your direction, but rather a desire to bring under consideration objections which might be aggravating at a later time, before the promulgation of the rules and regulations of administration, and for the purpose of preventing criticism and to make the provisions of the law most efficient and practical.

Two days later came a very courteous communication from Secretary Lane in the following language:

I have your letter of February 24, 1920, offering the services of the American Mining Congress, should consultation be desired in framing rules and regulations for the administration of the general leasing act.

I very much appreciate your kind offer, and have to advise that the regulations to be issued will be of two kinds: (1) The administrative regulations, which construe the law and deal with time and manner of filing and procedure in the Department and its subordinate offices and bureaus, and (2) the operating or working regulations, which will deal with the operation, care and maintenance of the mines or wells, the welfare of the miners and other things connected with operating mines.

As to the first class, by reason of the limitations contained in the act within which various rights may be asserted, it is exceedingly important that the regulations be issued at the earliest possible moment, and as they involve matters of law and departmental procedure may, I think, be properly prepared by officers of the Department and its bureaus.

As to the operating or working regulations, I will be very glad if the Department may have the assistance of the American Mining Congress, and suggest that you arrange with the Director of the Bureau of Mines for such co-operation as may be feasible and desirable in connection with the formulation of such regulations.

In this connection, officials of the American Mining Congress conferred with the gentlemen in charge of the legal and administrative regulations, and endeavored to have those regulations submitted to a committee of operators, who might advise with the framers of the regulations as to the advisability of certain clauses then under consideration. The petition was refused, and there followed the promulgation of Circular No. 672, approved March 11, which, among other things, limited prospecting permits to one for each applicant, while at the same time the law and the regulations allowed a final location of three leases in each State in which an individual or corporation might wish to participate.

Royalties payable under leases granted by the law were fixed for oil of 30 degrees Baume or over on each claim on which wells average 200 barrels per day, 33 $\frac{1}{3}$ per cent.; less than 200 barrels and

down to 100 barrels, 25 per cent.; less than 100 barrels and down to 50 barrels, 20 per cent.; less than 50 barrels and down to 20 barrels, 16 $\frac{2}{3}$ per cent., and less than 20 barrels, 12 $\frac{1}{2}$ per cent.

These clauses of the regulations were so palpably unfair and unworkable that protests poured into the Interior Department from all fields affected by the law. The matter was personally taken in hand by Hon. John Barton Payne, the new Secretary of the Interior, and it was brought out in a hearing granted to producers who bore in upon him the fact that the oil industry of the United States has always been willing to bear its share of the Government burden, and is doing so in taxes; that the oil industry should not be throttled by restrictive rulings read into a law which had had years of consideration by Congress.

Mr. Payne instructed regulations (Circular No. 672) should be discarded and replaced by new regulations which should be at once considered in the light of fairness to the petroleum industry of the country. It was also ordered that, so far as operating or working regulations were concerned, the producers should be called into conference. Director Manning of the Bureau of Mines at once arranged for such conference on April 1. The American Mining Congress and other organizations interested in oil were invited to appoint two representatives each, and the Governors of all States in which oil is to be produced under the Leasing Law were invited to send two personal representatives. It is probable that, as a result of this considerate action and conference with the actual producers in the field, the working regulations will be promulgated free from objectionable features. As a result of the protests made, the administrative regulations have been reissued and reduce the royalties to be paid to 25 per cent. as a maximum, with an average of 20 per cent., an amount, which oil producers agree, is fair and equitable under the circumstances. Special royalty regulations covering the California situation where oil of less than 30 degrees Baume is produced fix the maximum

royalty at 20 per cent. All royalties are to be cumulative.

Instead of shutting out alien stockholders, which would have forced a reorganization of many companies and caused endless confusion and dissatisfaction, companies are now merely required to furnish lists of stockholders, with the addresses of same, in order that the Department of Justice may check upon the possibility of undesirable investments of aliens in case there appears to be any indication of control of the oil industry by aliens. Companies not more than 10 per cent. of whose stock is held by aliens will not be disqualified to receive leases.

One of the most important items of liberalization resulting from the revision of these regulations is the increase in the number of permits to be issued to three for each State in which companies or individuals may desire to prospect. The general effect of this protest by the oil men has been to so liberalize the administration of the leasing law that encouragement rather than discouragement is extended to the oil industry, while attention of the new Secretary of the Interior has been called to the fact that the business men of the West are fair, reasonable and broad-visioned, but that they will insist upon their rights from the Government, with which they desire to co-operate in national development.

JOHN BARTON PAYNE

In dealing with new people, one is always most interested to know what manner of folk they be. When a new person is filling a post as important to the country as that of Secretary of the Interior, the manner of man who is to fill it means much to us all. There is always the fear of what may happen to new wine and old bottles.

In certain conferences before John Barton Payne we have been privileged to watch a forceful man at his work, and the sight was pleasant. The humor that lurks behind the rugged features appearing in his photographs is much more visible in the flesh; it is a kindly, encom-

passing sort of humor. He is a direct, effective, modest man, without frills, pomp or ceremony. His manner was a bit deprecating, not of himself, not, certainly, of the people who were before him, and most emphatically not of the importance of the business that they were to discuss, but of the fact that a situation which was simply a discussion among business men to be settled on business principles should be subject to so much ceremony.

He asked three or four direct questions of each man who talked, to which he was grateful for as direct an answer. He wants facts on which to hang accurate, quick decisions.

We like such methods, and we like Secretary Payne. And, to continue a figure of speech that is especially appealing these days, we think there is going to be some life to this particular vintage of new wine.

THE DEADLY PARALLEL

On the day that the American Federation of Labor issued its circular appeal to its members to nominate and elect trades-union members to public office, basing the appeal upon a statement that "the rights of labor have been interfered with by the present holders of political place," facts were made public showing that from 1917 to 1920 the railroad employees received advances in wages amounting to more than \$1,000,000,000, and that demands now before the adjustment board aggregate another billion. The cold and heartless crushing out of labor's rights by the Railroad Administration has been particularly noticeable.

CONSTITUTIONAL RIGHTS

W. T. Davis and Amos Hadley of Roanoke, Va., are clerks employed by the Norfolk & Western Railway Co. They refused to join the Brotherhood of Railway Clerks, etc., holding that they, as citizens, had the right to work where and when they pleased, free from domination of labor leaders. Their heads

were demanded by the walking delegate, and the request refused by the railroad company. All clerks were ordered to "walk out," and hundreds did. This strike against the constitutional rights of Davis and Hadley may tie up the Norfolk & Western and cost countless thousands of dollars in wages and profits, but Davis and Hadley deserve nationwide acknowledgment for their bravery and the railroad officials should be endorsed by Congress.

THE OPEN SHOP

The strongest editorial on the "Open Shop" yet penned is 18 years old. It was not written as an editorial, but is reprinted here as such. It was prepared and signed by President Roosevelt's Anthracite Commission, which settled one of the worst labor situations ever forced upon the nation up to that time, and is as follows:

The right to remain at work where others have ceased to work, or to engage anew in work which others have abandoned, is part of the personal liberty of a citizen, that can *never be surrendered, and every infringement thereof merits and should receive the stern denouncement of the law.** The right thus to work cannot be made to depend upon the approval or disapproval of the personal character and conduct of those who claim to exercise this right. (**Italics by Editor.*)

And the Commission ordered:

That no person shall be refused employment, or in any way discriminated against, on account of membership or non-membership in any labor organization, and there shall be no discrimination against or interference with any employee who is not a member of any labor organization, by members of such organization.

This principle of Simon-pure Americanism, if adhered to all these years by all branches of industry as it has been by the anthracite industry, would have created a better industrial nation. It is as applicable today as when penned, nearly a decade ago, and even more needful in these days when constitutional rights are trampled upon indiscriminately by radicals of every stripe.

THINK IT OVER

It is said that the current daily deficit of the railroads of the United States aggregates \$1,000,000. Rolling stock is in bad shape and cars are scattered to the four corners of the map—and yet we read about demands for increased wages and retroactive awards.

PHYSICAL EFFICIENCY

Miners are required to use both brain and brawn.

The man with the best of brains, if devoid of brawn, is an inefficient miner, except as a director of other men.

Physical fitness, backed by a well-developed brain, makes a man 100 per cent. competent if his heart is in his work. This rule counts in the mine as well as in the shop.

Physical fitness and mental fitness go hand in hand. A healthy mind in a healthy body isn't apt to be easily inflamed or thrown out of balance. It is usually well qualified to think clearly, and clear thinkers are not usually hectic in their way of doing things.

In these days of stress and radical propaganda, the mine operator should be glad to have his producing organization manned by healthy men. Some mining districts are populated by such workers; others are not.

Congressman S. D. Fess of Ohio has introduced a bill which, if the present wave of "economy" did not weigh against it, should receive favorable action. It is H. R. 12652, to provide for the promotion of physical training. It proposes to spend millions if necessary through State educational channels in blotting out America's disgraceful physical record during the war preparations. It is based upon the record of the Provost Marshal's office, which shows that had the Government not let down the bars in physical tests, the American Army would have been slow in organization. According to General Leonard Wood, but one in five American men presenting themselves under the draft

could come up to the regular army requirements.

The young men who were admitted to the army under reduced standards of physical fitness were whipped into perfection—the finest body of fighting men in the world. That doesn't level up the failure of the great mass, but does prove what can be done.

Mr. Fess proposes to promote manhood. His bill charges the Bureau of Education, the Interior Department and the Public Health Service of the Treasury Department with the responsibility of preparing the boys and girls of the nation for citizenship and disciplined co-operation. It provides the machinery for thorough physical training, periodical physical tests and examinations, correction of defects, instruction in methods of living, health supervision of schools, equipment of schools for the work to be accomplished, co-operation with State and local institutions, teachers' organizations, etc.

The cost of all this machinery is not to exceed \$1 per child—a pittance for each child—but aggregating, when the machinery is in motion, millions.

The Congressman agrees with the young farmer out in Montana who, after listening several hours to college professors exhort the farmers present to raise better livestock, arose and sagely remarked:

"Mr. Chairman, I have heard several speakers here advocate breeding and raising better pigs. I want to discuss the profitableness of breeding and raising better children."

"Better man-power" being the object of the Fess bill, it interests every employer of labor, we think.

HIGH COST OF STRIKES

Figures compiled by the United States Shipping Board show that during the 11 months from January 1 and ending December 1 of last year strikes in Shipping Board plants or in connection with shipping in which the United States was interested caused the United States Shipping Board a loss of \$37,000,000, which

must be paid out of the taxes collected by the Government.

In addition to the financial loss to the United States, which represents an appalling figure in itself, the marine strikes recorded by the Shipping Board, including those in New York and on the Pacific Coast, totaled 5,883,000 days for which the strikers received no remuneration, and which, averaging the day's earnings at a modest figure of \$5 per day, cost in wages for the strikers alone \$29,415,000.

This record, we presume, is looked upon by radical labor leaders as most successful, but the public, which must eventually pay all such bills, will not view the record from the same standpoint.

It has recently been stated by a very reliable statistician that for every man sent to the trenches in France to fight for the democracy of the world and safety of the United States, the radical labor leaders, I. W. W. and other revolutionary movements managed to keep one man out of work continuously; *i. e.*, man for man soldiers in the trenches were matched by strikers on this side of the water. This is some record for the labor politicians to face in attempting to corral political control of the United States. The frightful economic waste caused by strikes should cause every thinking man within the ranks of union labor to stop and consult his better judgment, and to measure his actions well before he places himself under the political domination of professional labor agitators.

The cold, hard fact is, and no man can gainsay it, that whatever loss occurs under such conditions is a loss to the laborer himself. The loss in productivity alone is sufficiently serious at a time when all the world is short of supplies to make it one of the greatest problems of the age. While these appalling figures stare them in the face, radical labor leaders in the United States and Europe are continuously holding up the threat of strikes and more strikes unless their impossible demands are immediately and fully granted.

There is food for reflection in this situation. There is every reason to believe that a movement of education should be begun not only by the Government of the United States, but by every business interest in the country, through which the producing element of the country can be given the facts upon which it must ultimately base its decisions, regardless of the demands of the labor leaders.

ZINC AND COPPER

Copper has come to its own.

During the last six months of 1919 the consumption of copper in the United States far exceeded the world's consumption in pre-war times. The figures, just given out by John D. Ryan, as chairman of the Copper Export Association, are startling, and also encouraging, to the mining industry of the United States. A year ago the copper stocks of Europe aggregated 545,000,000 pounds of new copper and 385,000,000 pounds of scrap. Including the 1,800,000,000 pounds produced through the American refineries and the 450,000,000 pounds produced outside of the United States, the total available stock for the year aggregated 3,430,000,000 pounds, and the consumption, as indicated by all facts in hand, was 2,970,000,000 pounds.

Mr. Ryan shows that this consumption exceeded the consumption of any previous year, even including the war. European stocks are depleted, and America must redouble her efforts to produce for export, but added to this is the interesting and significant fact that copper is being called for in ever-increasing quantities for American electrical development, including power plants and distribution.

By the same token zinc is coming to its own.

For years, in fact, until quite recently, the zinc business has been largely dependent upon the demand for galvanized iron.

The zinc producer talked in terms of "Jack" and took whatever the smelters offered, being prosperous or "broke," as the price rose or fell. The New Jersey Zinc Co. and other far-sighted manufacturers have spent vast sums in the development of uses for zinc, and today your collar button, your automobile tire and a long list of other articles either does or might contain a large percentage of the metal once looked upon as of value only in a few industrial developments. Zinc is shown to be a desirable substitute for many other substances, and, while not destined to play the big part played by copper in the world's reconstruction, it is commanding increasing recognition as a most important commercial element.

THE INCOME TAX COMPLEXITY

As a writer in one of the current magazines puts it, the public has little chance, under the present system of taxation, of beating the high cost of living, and there is more than a suspicion that the methods utilized by the commercial world to beat the "tax game" have had a very large part in the upward development of prices.

The producer of raw material adds the tax to his product; the buyer of the raw material has to pay the producer's tax, and then adds his own; the buyer of the manufactured raw material has to pay the combined tax preceding, and adds his own; the jobber who buys the final manufactured product has to pay the accruing combined tax, and adds his own; the wholesaler and distributor meets the established combined tax, and adds his own; the retailer pays the compounded tax, and adds his own, and the public pays the several times compounded tax and kicks.

A statement made recently by a high official of the Bureau of Internal Revenue to a group of representatives of national organizations indicates that the Treasury Department itself is unable to

cope with the complex situations produced by the present cumbersome income and excess profits tax law. The officials of the Treasury Department charged with the responsibility of collecting this tax admit that, even though the best of judgment is used, injustice often occurs, and the taxpayer is obliged to meet onerous and almost prohibitive conditions. Furthermore, in order that the letter of the law may be fully complied with and the tax properly collected as provided for under the complex system, the Treasury Department employes are becoming Legion and the expense of the collection is most appalling even to men who are used to the present-day expensive methods of the Government.

The above-quoted Treasury Department representative used this expression during the conference referred to: "We are fully aware of the perplexities facing the public, and we are none the less perplexed. The law is cumbersome and expensive of operation and far from satisfactory. It should be the business of every business organization in the country to at once organize a national committee which would study the tax situation and present to Congress a rational and workable law and a plan of administration which might be looked upon as reasonable and workable. The sooner you gentlemen do this, the sooner the present law may be replaced on the statute books with something more reasonable and fair, but it will do no good to present a theoretical bill unless you have at the same time worked out the details of administration and meet the entire situation four-square."

The American Mining Congress is cognizant of the fact that the Commissioner of the Bureau of Internal Revenue is trying to honestly and fairly administer a most complicated law. He is charged with the duty of raising millions necessary to meet the financial conditions imposed by the war. He is as desirous as any man can be that no injustice be practiced in the Department. He is sur-

rounded by earnest, well-trained men, who are, for a mere pittance, sacrificing time in the direction of hundreds of clerks, statisticians and auditors, who, in turn, are endeavoring to understand the law themselves, and who, while carrying out the technicalities of its requirements, measure justice to the taxpayers. But no organization, no matter how thoroughly equipped it may be, can ever satisfactorily and justly work out the income and excess profits tax problems as they present themselves under the present law. To make the situation more serious than it otherwise might be, there remains the fact that the salaries paid the Government officials and employes are so ridiculously low that the agents of the Department cannot afford to remain with the Government more than a few months each, except as they are willing to sacrifice their business interests for the general public good. Hundreds of clerks, statisticians and auditors are using the Treasury Department as a training school for advancement into lucrative private positions.

The working out of the present law demands that highly specialized tax experts be employed by thousands of concerns in order that they may successfully meet the puzzling technicalities of the present law, and large numbers of experts have been continually leaving the Bureau of Internal Revenue and the pittances which the Government has been able to pay and stepping into positions paying them from \$3500 to \$15,000 a year, temptation which no sane man could well resist in these days of high living costs.

Reorganization of the system of taxation must ultimately, and soon, be attempted, but such reorganization should not be attempted by Congress without close co-operation with organized business.

The mining industry of the United States desires to pay its full and reasonable proportion of the burdens under which the nation is now struggling, but

it wishes to pay that proportion upon a business-like basis.

A WAR MINERALS RELIEF COMPARISON

In the early part of the year 1918 every available ship was being put into service to carry our soldiers to France, together with the necessary supplies and war munitions to army service.

At that time the leaders of the steel industry announced that if the ships then engaged in the importations of manganese ores from Brazil should be commandeered for the oversea service, cutting off all manganese importations, in three months' time the steel industry would be paralyzed and that 90 per cent. of its products were for essential war purposes. In other words, that the war must stop except an ample supply of manganese was available for steel manufacturing purposes.

At that time agents went about the country making contracts with the owners of undeveloped manganese resources for the production of manganese ores. In one particular instance, the brokers told the miners that, while the contract was directly with them, the purchase was made on behalf of a well-known and large steel plant; that these minerals were absolutely necessary to the continuance of its operations in filling Government contracts; that the ore was to be shipped direct to this particular company. These contracts ran from six months to two years, some of them still being legally in effect.

Immediately upon the signing of the armistice these brokers sent telegrams to the producers, refusing to accept any further shipments under these contracts. In the meantime, these miners had installed plants and opened their properties at great expense and begun shipments.

The injustice of this situation was referred without result to various branches

of the Government at Washington, one reply being to the effect that no relief could be given, but that the law of contracts was still in effect. Mine operators could not continue to produce ore, ship it to an unwilling purchaser and rely upon a suit to recover the money, and as a result were left with large losses, which Congress undertook to settle by the enactment of the War Materials Relief Bill, appropriating \$8,500,000 for the settlement of losses incurred in the production of ores at the request of Government agencies.

Up to the present time considerably less than \$1,000,000 has been paid out of this fund for the relief of these miners, yet the Government has paid the steel-manufacturing firm above referred to, for whom some of these contracts were supposed to have been made, in settlement of contracts not fulfilled, the sum of \$3,330,040.39. This award has been made, not for losses sustained, not for materials contracted for and on hand, but for loss of anticipated profits from the by-products of the very plants to which these war minerals were being shipped, and for materials of which not a pound was ever produced.

The miners producing the ore, hundreds of them, have been ruined by their losses, and yet the branch of the Government which is administering this situation points with pride to its record of payment in the statement that it is saving the Government funds, while this other branch of the same Government pays millions of unearned profits to one company alone.

We do not question the justice of this award, but we do urge that the 1200 claimants who suffered actual losses in producing the material necessary for the Government's use should have a right to a court hearing, as provided in the Garland Bill, H. R. 13091, which has recently been favorably reported by the Mines and Mining Committee of the House of Representatives.

TUNGSTEN TARIFF MEASURE REPORTED FAVORABLY TO SENATE

The Committee on Finance of the Senate issued the following report on the tungsten tariff bill:

"The Committee on Finance, to whom was referred the bill (H. R. 4437) to provide revenue for the Government and to promote the production of tungsten ores and manufactures thereof in the United States, having considered the same, report favorably thereon, with the recommendation that the bill do pass with amendments.

"Tungsten is a vitally important war metal. It is equally important in our industrial peace program. Tungsten is the only known element which forms an alloy with steel, giving to the steel the property of retaining its temper at extremely high temperatures. This property, together with its great hardness, makes possible the manufacture of tools for drilling, cutting and finishing steel products. Those tools are operated at such high speed that one machinist and one lathe can do as much as five machinists and five lathes equipped with carbon steel tools. Quantity production is dependent on high-speed tungsten steel.

"Prior to the war, Germany controlled the tungsten refining industry, and very little tungsten was refined in the United States. During the war the tungsten industry was fully established and the United States became the leading nation in the manufacture of tungsten products.

"The mining of tungsten in the United States was greatly stimulated during the war, and the production in 1917 reached 6144 tons of 60 per cent. concentrate. The evidence showed that the normal requirements of this country were between 5000 to 7500 tons of 60 per cent. concentrate per year. The annual production from the equipped mines that can be operated under the proposed duty was demonstrated to be from 4000 to 4500 tons per year. It is claimed, through the stabilization of price and stimulus of the duty, that this production can gradually be increased until our entire domestic requirements will be supplied. During that period of development a substantial revenue would be received from importations of ore.

"The report of the United States Tariff Commission states that 'the United States has a sufficient supply for many years to come.'

"The destructive competition which American producers are helpless to meet comes from the ores of Asia. The costs of domestic production were proved from certified statements to average \$13 per unit. The foreign costs were showed to be from \$2 to \$4 per unit, and foreign ores are being sold in New York at from \$6 to \$7.50 per unit. Large quantities, aggregating about 50,000 units per month, are being imported, duty free, and non eis being produced now in the United States.

"The difference in costs are not due alone

to the discrepancy in high wages paid our American miners (from \$4.65 to \$6.50 per day) and the pittance paid Asiatic coolies (from 20 cents to 50 cents per day), but the physical character of the deposits is different. Most foreign ores are recovered from rich surface deposits, that require little or no equipment, while American ores are recovered from veins or lodes of hard rock. Expensive mine equipment is required and large costly mills are necessary, as the ore has to be crushed and concentrated to put it into a marketable product.

"It has been shown that the tungsten mining industry is in a critical condition. Unless prompt action is taken, it will be destroyed. Every mine in the United States is closed down, and without the duty asked for cannot reopen. The industry which proved of such vital importance during the war will fall in decay, so it cannot be rehabilitated, and the country will be left to the mercy of Asiatic production to supply a material as necessary in our industrial peace program as it is essential in war.

"At the present time the tungsten-bearing ores of all kinds are on the free list. With the placing of a duty on such ores it is necessary to place a compensatory duty on imports of refined tungsten products and alloy steels, and the rate named in the bill provides that compensation.

"From the showing made it is perfectly evident that this industry should be protected. Without a healthy tungsten industry the United States will be completely at the mercy of hostile nations, which could instantly cut off supplies. The production of war material would be paralyzed.

G. W. LAMBOURNE ELECTED GOVERNOR OF UTAH CHAPTER

Utah Chapter, American Mining Congress, at its annual meeting March 8 elected G. W. Lambourne, governor; Walter Fitch, first vice-governor; C. E. Allen, second vice-governor; J. William Knight, third vice-governor, and A. G. Mackenzie, secretary and treasurer.

All the officers were re-elected except Mr. Lambourne, who succeeds Imer Pett. Mr. Lambourne is president and general manager of the Judge Mining & Smelting Co. and the Daly West Mining Co., with properties at Park City, Utah.

The following directors were elected: Walter Fitch, H. M. Hartmann, Samuel K. Kellock, F. J. Westcott, C. E. Loose, J. M. Bidwell, Norman W. Haire, J. B. Whitehill.

SUPERINTENDENT JOHN A. DAVIS of the Fairbanks station of the Bureau of Mines, sailed from Seattle, en route to Fairbanks, recently, after spending several months in the United States. In March Paul Hopkins, chemist of the Fairbanks station, was in the Kantishna on leave of absence.

THE NEW WAR MINERALS RELIEF BILL

By HERBERT W. SMITH.

The importance of the hearings upon the new War Minerals Relief Bill (H. R. 13091) has been generally recognized.

The hearings occupied several weeks of arduous work by the committee and the claimants and their representatives. The committee report of the hearings, which now has been printed, is a formidable volume. The statement of the Mining Congress in its appearance for the war minerals claimants was based upon a parallel-column brief and chart showing the situation existing under the present law and the needed changes. This chart formed a basis for the whole discussion before the committee except as applied to individual cases.

The Mining Congress in its appearance first made it clear that it was appearing for the equitable rights of all the claimants under the law and not as representatives of any specific claimant. The committee showed keen interest and helpful consideration for all the questions discussed. Mr. E. A. Dickey, representing the Pacific Coast Chrome Producers' Association; Mr. John Haak of Portland, Ore., representing the Northwestern Chrome Producers; Mr. Ross Blake, representing the Batesville manganese producers, and Mr. Frank Healy, representing Dr. J. F. Reddy, appeared as individual witnesses. The consideration by the Government of cases of the Chestate Pyrites Co., as presented by ex-Congressman W. Schley Howard, occupied several days of the hearings. The hearings were closed and the summing up and analysis of the whole war minerals situation, covering eight days, was presented by the Chief of the War Minerals Division of the Mining Congress, who appeared as spokesman for all the war minerals claimants.

There was at first a very natural leaning on the part of the committee toward the action of the Commission up to that time, as it showed such a large percentage of the original fund still being conserved. But as the hearings progressed the committee became more and more of the opinion that when such conservation defeated the purpose of the original legislation, it was contrary to public policy.

The original resolution introduced last July to assist in working justice out of this situation was soon seen to be inadequate, and at the end of these hearings Chairman Garland introduced as a substitute measure H. R. 13091, full report of which will be found under the title Mineral Legislation on another page of this issue.

This bill will give to war minerals claimants the right to appeal to the Court of Claims. We are informed that the Court of Claims is ready to take immediately jurisdiction of such claims if this legislation becomes effective. In

reporting this bill the Committee on Mines and Mining issued the following report:

Mr. Garland, from the Committee on Mines and Mining, submitted the following report to accompany H. R. 13091:

The Committee on Mines and Mining, to whom was referred the bill (H. R. 13091), providing for a review by the Court of Claims of awards to dissatisfied claimants under the War Minerals Relief Act, reports the same back to the House with the unanimous recommendation that the bill be passed.

The attention of the committee was first directed to this matter several months ago by the complainants of several claimants, and this bill was framed by the committee and unanimously agreed to after months of painstaking hearings, a part of which are printed.

The hearings of the committee were undertaken not for the purpose of reviewing the findings of the War Minerals Commission, to whom the Secretary of the Interior delegated his authority under the law, but for the sole purpose of determining what additional legislation, if any, is necessary to carry out the purpose of Congress in enacting the War Minerals Relief provision, which is Section 5 of the Informal War Contracts Relief Act.

The committee is of the opinion that the commission erred in its interpretation of the legislative intent, its interpretation and application of the provisions of the Act and the application of the provisions of the law to the facts. The law under which claimants seek relief is said Section 5 referred to, and clearly and explicitly directed the Secretary of the Interior to

"Adjust, liquidate and pay such net losses * * * and shall make adjustments and payments in each case, as he shall determine to be just and equitable * * * it shall appear to the satisfaction of the said Secretary that the expenditures so made, or the obligations so incurred by the claimant were made in good faith for and upon property which contained either manganese, chrome, pyrites or tungsten in sufficient quantities as to be of commercial importance * * * that monies were invested and obligations were incurred * * * in a legitimate attempt to produce * * * for the needs of the nation for the prosecution of the war, and that no profits of any kind shall be included in the allowance of any of such claims, and that no investment for merely speculative purposes shall be recognized in any manner."

The language of the Act as above quoted is clear, and if interpreted as the courts of the country have repeatedly held such statutes should be interpreted, the committee is of the opinion that the purpose of Congress can be fully carried out and a "just and equitable" settlement can be had of every legitimate

claim. For the correct rule of interpretation and application of such a statute see *U. S. vs. Dixon*, 15 Peters; *U. S. vs. Union Pacific Railroad Co.*; *U. S. 91*; *U. S. vs. State of New York*, 160 U. S.; *Smith vs. Townsend*, 140 U. S.; *District of Columbia vs. Washington Market Co.*, 108 U. S.; *McClure vs. U. S.*, 115 U. S.; *Monongahela Navigation Co. vs. U. S.*, 148 U. S.; *Stewart vs. Kahn*, 78 U. S. For the reasons above stated the committee has not thought it necessary to amend the original Act, but that the pending bill should be confined to giving to the dissatisfied claimants the same right that the original Act gave to dissatisfied War Department Contract Claimants—that is, a review by the Court of Claims. By giving such a right to these claimants Congress will simply put them on an equal footing with the War Department claimants, as provided by Section 2 of the original Act of March 2, 1919.

While the committee has given consideration to the matters set out above, another consideration that moved the committee was the necessity from the standpoint of the Government and of Congress to have all of these claims finally adjudicated at a time when the facts were easily available. If this is not done, judging by the experience of the past, Congress would be called upon to consider private claim bills covering the claims of the different dissatisfied claimants, and not only from the standpoint of Congress is this to be avoided, but from the standpoint of the Government it is thought best to have these contentions finally reviewed now and finally settled.

This report speaks for itself, and is a splendid recognition of the rights of the war minerals claimants.

RIGHTS OF PROSPECTORS ARE DISCUSSED BY SUPREME COURT

In deciding suits relating to conflicting mining locations in Nevada the United States Supreme Court makes pertinent comments on the rights of prospectors and locators under the mineral land laws.

The case decided was that of *George A. Cole, Ed. Malley, Gilbert C. Ross, J. J. Healey, Guy Davis, George B. Thatcher and Wm. Forman vs. Joseph Ralph*, the former representing placer claims and Ralph lode claims. The lode claims were designated as Salt Lake No. 3, Midas and Evening Star, and the placer claims as the Guy Davis and Homestake. Ralph applied at the land office for a patent for the three lode claims, along with 13 others, and in due time two adverse claims were filed, one based upon the Davis claim and covering most of the ground within the Salt Lake No. 3, and the other based upon the Homestake and covering a considerable portion of the ground within the Midas and Evening Star claims. Suits were brought in the State court in support of the adverse claims and Ralph, the sole defendant, had them removed to the Federal

court, the parties being citizens of different States. Afterwards some of the original plaintiffs were eliminated and others brought in, but the citizenship remained diverse as before.

The cases were tried together, and the jury returned verdicts for the plaintiffs and special verdicts finding that when the placer locations were made no lode had been discovered within the limits of any of the lode locations. Judgments for the plaintiffs were entered upon the verdicts and motions by the defendant for a new trial were overruled. The Circuit Court of Appeals reversed the judgments and ordered a new trial.

The cases were brought to the United States Supreme Court because the construction and application of some of the mineral land laws was deemed of general interest in the regions where these laws are operative.

Discussing the general mineral land laws, Justice Van DeVanter, who rendered the opinion of the Supreme Court, says that in advance of discovery an explorer in actual occupation and diligently searching for mineral is treated as a licensee or tenant at will, and no right can be initiated or acquired through a forcible, fraudulent or clandestine intrusion upon his possession. But if his occupancy be relaxed or be merely incidental to something other than a diligent search for mineral and another enters peaceably and not fraudulently or clandestinely and makes a mineral discovery and location, the location so made is valid and must be respected accordingly. A location based upon discovery gives an exclusive right of possession, is property in the fullest extent, is subject to sale and other forms of disposal, and so long as it is kept alive by performance of the required annual assessment work, prevents any adverse location of the land.

While the two kinds of location—lode and placer—differ in some respects, the Justice says a discovery within the limits of the claim is equally essential to both. But to sustain a lode location the discovery must be of a vein or lode of rock in place bearing valuable mineral, and to sustain a placer location it must be of some other form of valuable mineral deposit, one such being scattered particles of gold found in the softer covering of the earth. A placer discovery will not sustain a lode location, nor a lode discovery a placer location. Justice Van De Vanter says location is the act or series of acts whereby the boundaries of the claim are marked, etc., but it confers no right in the absence of discovery, both being essential to a valid claim. Nor does assessment work take the place of discovery for the requirement relating to such work is in the nature of a condition subsequent to a perfected and valid claim, and has "nothing to do with locating or holding a claim before discovery." He says that in practice discovery usually precedes location, and the statute treats it as the initial act. But in the absence of an intervening right it is no objection that the usual and statutory order is reversed. In such case the

location becomes effective from the date of discovery, but in the presence of an intervening right it must remain of no effect.

The principal controversy in this case was over the presence or absence of essential discoveries within the lode locations, it being denied on the one hand and affirmed on the other that a vein or lode of rock in place bearing valuable mineral was discovered in each location before the placer locations were made. In all particulars other than discovery the regularity and perfection of the lode locations were conceded. The only questions respecting their validity were whether at the time the placer locations were made the lode locations had become valid and effective claims, and if the lode locations had not then become valid and effective, whether the placer locations were initiated and made through wrongful intrusions or trespasses upon any actual possession of the lode claimant. The evidence bearing upon the presence or absence of lode discoveries was conflicting.

Continuing, the decision says the locators entered openly, made placer discoveries, performed the requisite acts of location, excavated several shafts, ran drifts and mined a considerable amount of placer gold, covering a period of two and three months. The locators did not meet with any resistance or resorted to any hostile, fraudulent or deceptive acts. But there was evidence of such ownership of buildings, comparatively recent prospecting and maintenance of a watchman on the part of the lode claimant as made it a fair question whether he was in actual possession when the placer locators entered. The buildings were all on the same claim, and covered only a part of it. They had been used in connection with mining operations upon other claims. The buildings were not disturbed by the placer locators, nor was there any attempt to appropriate them. The watchman made no objection to what was done.

The court says that ownership of the buildings did not in itself give the lode claimant any right in the land or prevent others from entering peaceably and in good faith to avail themselves of privileges accorded by the mineral land laws, but the presence of the buildings and his relation to them did have a bearing upon the question of actual possession. Even if the lode claimant was in actual possession of all, it still was a disputable question under the evidence whether there had not been such acquiescence in the acts of the placer locators in going upon the ground, making placer discoveries and marking their locations as gave them the status of lawful discoveries and locators rather than wrongful intruders or trespassers; that is to say, the status of explorers entering by permission and then making discoveries.

The court speaks of the effect of Section 2332, R. S., which provides that where persons

or associations have held and worked their claims for a period equal to the time prescribed by the statute of limitations for mining claims, evidence of such possession and working of the claims for such period shall be sufficient to establish a right to a patent thereto under this chapter in the absence of any adverse claim. The court says this is a remedial provision designed to make proof of holding and working for the prescribed period, the legal equivalent of proof of acts of location, recording and transfer, and thereby to relieve against possible loss or destruction of the usual means of establishing such acts. But this act and the rulings of the Department of the Interior and decisions of the court thereunder give no warrant for thinking that it disturbs or qualified important provisions of the mineral land laws, such as deal with the character of the land that may be taken, the discovery upon which a claim must be founded, the area that may be included in a single claim, the citizenship of claimants, the amount that must be expended in labor or improvements, to entitle the claimant to patent and the purchase price to be paid before the patent can be issued, as the rulings of the department have been to the contrary, says the court. The court quotes decisions of the Interior Department thereon, and adds: "Certainly it was not intended that a right to a patent could be founded upon nothing more than holding and prospecting, for that would subject non-mineral land to acquisition as a mining claim."

The court adds that in the pending cases there was no discovery, so the working relied upon could not have been of the character contemplated by Congress.

The court concludes that the defendant was not entitled to any instruction of the jury, whereby he could receive the benefit of Section 2332 in the absence of a discovery, and therefore that the District Court rightly refused to give the one in question. The Circuit Court of Appeals held that the instruction should have been given, and in this the Supreme Court thinks it erred. The court therefore reversed the judgments of the Circuit Court of Appeals and affirmed the judgments of the District Court.

India to Absorb More Silver

When it is realized that approximately one-fifth of the human race uses the silver rupee for its currency, and that the piece enjoys a distribution greater than any other silver coin, the importance of any regulation affecting the rupee becomes apparent. Furthermore, the Indian Government is the world's greatest consumer of silver, and by its own action has "fixed" a minimum price for silver purchases. As long as India sustains this arrangement it will be possible to dispose of silver to that country at prevailing high prices.—Bureau of Mines.



HENNEN JENNINGS, NOTED MINING ENGINEER, DIES IN WASHINGTON

Hennen Jennings, recognized as one of the foremost American mining engineers, died at his home in Washington, March 5, at the age of 66 years. Death was due to heart disease. For many years Mr. Jennings was an active member and director of the Mining Congress.

During the 40 years in which Mr. Jennings was engaged actively in mining engineering enterprises he attained an international reputation. He was born in Hawesville, Kentucky, May 6, 1854. His scientific education was obtained at Lawrence Scientific School of Harvard University. His early practice was in California and in Venezuela. In 1880 he went to South Africa, where his work was particularly notable. As the consulting engineer for H. Eckstein & Company he had an important part in the development of gold properties in South Africa. He also was several years in the service of Wernher, Beit & Co.

During the war he served as a volunteer in the Bureau of Mines, where he was in charge of an elaborate investigation and report on the gold and platinum situations.

THE ROESSLER & HASSLACHER CHEMICAL Co. announce that on or about April 1, 1920, their main office will remove to more commodious quarters at 709-717 Sixth avenue, corner 41st street, New York, N. Y.. Their postoffice box number will be 119, Times Square Station. Telephones, Bryant 0880-0886.

REVISION OF MINING

LAWS BILL DRAFTED

The Committee of Consulting Engineers of the Bureau of Mines, organized some three years ago in co-operation with the Mining and Metallurgical Society of America to work out a revised code of metal mining laws based on a referendum of various mining societies, has now taken up this subject, which it was necessary to lay aside during the late war, and at the instance of W. R. Ingalls, chairman, a bill has been prepared by James R. Jones, secretary of the committee. This bill is now ready for the consideration of the committee, and copies have been sent to the chairman of the Committees on Mines and Mining of the Senate and House. It is expected that the committee, after considering the bill and making such changes as appear advisable, will send it out for criticism to the mining societies who participated in the original referendum and also to other organizations and persons interested in the subject.

Industrial News

The Quaker City Rubber Co. has recently announced an important change in the management of their company in the appointment of William S. Bloomer, who will become their district manager for Chicago. Mr. Bloomer was for many years connected with the rubber industry, and was located in Chicago, where he has a wide following of friends in the Central States, which extends to the Pacific Coast and Alaska. He has for the last ten years filled various important positions on the Pacific Coast and in the large mining fields of the West. At one time he made a special trip for one of the large corporations, visiting all of Alaska, which required the entire summer for the trip. His friends and the trade will be interested in knowing that he has become affiliated with the Quaker City Rubber Co.

D. GLEISEN, manager industrial bearings division, Hyatt Roller Bearing Co., announces that their offices have been moved to a new building at 100 W. 41st street, New York, N. Y., where much larger quarters have been secured for the advertising, sales and engineering departments of the division. The new building is very conveniently located, being only one square from 42d street, from Broadway and from Fifth avenue, the three most important streets in New York. All the customers of the division are cordially invited to use these offices as their headquarters whenever they are in New York.

Ernest F. Burchard, geologist in charge of the iron and steel section, United States Geological Survey, has been granted a ten-month leave of absence and will make geologic investigations in the Philippines.

A White House Lullaby

(Croon to the Song, "High Diddle-Dee.")
 Ten little Cabinet members, in the White House fine,
 Bill Bryan quit his job, and then there were nine;
 Nine little Cabinet members, having a debate,
 Lindley Garrison had a fight, and then there were eight;
 Eight little Cabinet members, thought they were in heaven,
 McReynolds landed a nice new job, and then there were seven;
 Seven little Cabinet members, in an awful fix,
 McAdoo left, to get more pay, and then there were six;
 Six little Cabinet members, struggling to keep alive,
 High cost of living forced Gregory out, and then there were five;
 Five little Cabinet members, playing on the floor,
 Glass became a Senator, and then there were four;
 Four little Cabinet members, unable to agree,
 Lane was offered a new place, and then there were three;
 Three little Cabinet members, knew not what to do,
 Redfield went back to business, and there were two;
 Two little Cabinet members, having lots of fun,
 Lansing got the Grand Old Bounce, and then there was one;
 One little Cabinet member, his war work all done,
 Daniels will be the next to go, and then there'll be none.

—The Wall Street Journal.

National Petroleum Congress Has Successful Meeting

Nearly one thousand people were in attendance at the National Petroleum Congress of the Independent Petroleum Association, which was held from March 9 to 13 at the Congress Hotel in Chicago. The arrangement of the meeting made each day of intense interest, the first day being given to producers, the second to refiners and the third to distributors. The Elizabethan room of the Congress Hotel was given over to exhibits and to the registration booths of the association.

The address of General Leonard Wood was the feature of the luncheon, at which the congress was officially opened by C. L. McGuire, the president.

Hon. J. J. Shea of the Mid-Continent Oil and Gas Association talked on tax problems. In the evening of the first day the United States Bureau of Mines gave its new motion picture, entitled "The Story of Oil," for the first time. This was accompanied by several acts from local vaudeville theaters.

The refiners' meeting on the second day, presided over by Fred W. Lehman, Western Petroleum Refiners' Association, gave the

morning to the discussion of the operation of the Jenkins still.

At the noon luncheon Mr. Charles F. Kettering, president Automotive Engineers of America, gave an address which for its deep understanding of the oil industry was remarkable.

Mr. Richard H. Lee, of the Associated Advertising Clubs of the World, discussed Blue Sky legislation and the necessity for the elimination of dishonest promotion in the oil business.

Mr. L. G. Gormley of the American Petroleum Institute discussed transportation problems.

In the evening the General American Tank Car Co. had as their guests all those attending the convention at a dinner dance at the Edelweiss Gardens.

At the business meeting on the third day, the secretary of the organization, Mr. John D. Reynolds, discussed the work of the association and Mr. Clifford Thorne talked on transportation and legal problems of the oil industry.

The annual banquet, which was held in the evening, was a very brilliant affair. Mr. Raymond Hitchcock was toastmaster and Senator Albert B. Cummins made a splendid address on the relation between government and industry.

All of the officers of the association were unanimously re-elected for the coming year.

This enthusiastic, purposeful convention showed the new interests of the petroleum industry in national problems in executive and legislative circles, which affect the development of this gigantic natural resource.

To Extract Oil From Shale

E. W. McDonald has resigned from the National Bank of Commerce of New York to take the presidency of the Shale, Oil and Refining Corporation, with general offices at 110 Nassau street.

This company will manufacture oil from the oil shales of Colorado on a very large scale. They have signed a contract with the Gas Machinery Co. of Cleveland, O., for the erection of the first unit of a 2000-ton daily capacity plant.

This unit will treat from 300 to 350 tons of oil shale daily, and on the basis of 42 gallons of oil from each ton of oil shale treated, will produce 300 to 350 barrels of oil daily of a much higher grade than the petroleum well oils and at a net cost of about 60 cents per barrel.

The oil shales of Colorado will produce from 40 to 107 gallons per ton by the use of the Wallace Process, for which process the Shale, Oil and Refining Corporation owns the exclusive rights in Colorado. They will grant the right for its use on a royalty basis.

MINERS' WAGES INCREASED IN AWARD HANDLED DOWN BY COAL COMMISSION

After nearly twenty days' delay, the reports made by the President's Bituminous Coal Commission were made public on March 24. The majority report was signed by Henry M. Robinson, the chairman, and Rembrandt Peale, John P. White, the other commissioner, submitted a minority report.

The decision is summarized as follows:

(1) Unless otherwise ordered, the terms and conditions of the Washington Agreement of 1917 continue.

(2) The 14 per cent. increase in wages fixed by the Fuel Administration is eliminated on March 31, and replaced by this award (which is on a 27 per cent. basis).

(3) The agreements drafted under this award are to take effect April 1, 1920, and continue until March 31, 1922 (in other words, the miners do not get their demand for termination of contracts in the fall).

(4) The mining prices for mining mine-run coal, pick and machine, are advanced 24 cents.

(5) All day labor and monthly men are advanced a dollar a day, except trappers and other boys, who are advanced 53 cents a day.

(6) All rates for yardage, dead work and room turning are advanced 20 per cent.

(7) The fulfillment of all joint and district agreements are to be guaranteed by the officers of the international organization.

In the discussion of this particular award, the Commission stated:

"We recognize that joint agreements resulting from conferences should be carried out fully and frankly by both parties, and that every proper assurance to this end should be given, since it is obvious that all attempts at amicable settlements of controversies will now and forever be futile unless the principle is once and for all established that agreements entered between employers and employees are binding upon both parties and are not to be considered as mere scraps of paper. For that reason, we believe that the fulfillment of joint agreements, entered into in any given district, should also be guaranteed by the national officers of the United Mine Workers of America, and that it should be the duty of the officers of the national organization, as well as that of the officers of the district, to see that all such agreements are carried out both in letter and in spirit."

(6) The six-hour day and the five-day week are not granted; the eight-hour day is retained.

In the discussion of this award, the report states:

"We have gone fully into the mine workers' demand for a six-hour day and a five-day week, equivalent to a reduction of working hours from 48 to 30 per week.

"In considering this demand, we were influenced in arriving at our decision by the fact that steady work on the part of all workers is urgently required by the entire world during the period of reconstruction and reorganization, when the enormous destruction and disorganization wrought by the World War in all countries and affecting all industries must be counteracted by unusual industry and perseverance. To make any restriction affecting the output would be an economic crime.

"It is claimed by the miners on the basis of experience after previous reductions of hours of labor and of the effects of reduction of hours in other countries, that curtailment of working time would not reduce the output in anything like a corresponding proportion. It is our view that arguments based on the effects of a reduction from 10 to 8 hours can hardly apply to a reduction from 8 to 6 hours, or from 8 to 7 hours. Production in countries where there has been a reduction in hours is less than before the hours were reduced. We feel that our responsibility to the nation will not permit us to make an award that would curtail appreciably the productivity of the workers in a basic industry.

"Each coal company endeavors to have enough men on its rolls to carry it over the peak of the rush season; the operators want coal mined while there is a demand, each company realizing that, if it is unable to satisfy its customers, they will turn to other producers and the sale will be permanently lost. A labor supply, sufficient for the needs of the rush season, is excessive during the rest of the year, part time employment results and the nation will ultimately have to pay in its fuel bills the cost of maintaining this larger army of only partially employed workers.

"We are convinced that a reduction in hours of labor would only make a bad situation worse; that the miners' demand on this point is clearly uneconomic, and that to grant it would be detrimental to their own interests.

"Another result that would flow from a reduction in hours with the wages that it is proposed should be paid, will be to increase the number of men who will seek employment at the mines on account of the shorter hours and the full pay, and this, in turn, will result later in further demands for the shortening of hours in order to give employment to the men who would thus be added to an industry that is already overmanned. We cannot, in view of our responsibilities, agree to a demand that would lead to such disastrous results. At the same time, we hope to accomplish something in the direc-

tion of the stabilization of the industry by means of constructive proposals discussed elsewhere in this report.

"While we are in full sympathy with the miners in their aspiration for a fuller life, we cannot help but feel that 8 hours a day is not too much to work under present circumstances.

"The contention that the extra hazardous nature of the mining industry makes it desirable to reduce the risks run by the miners by reducing the time during which they are exposed to this risk is inconsistent with the claim that the miners wish to work the same number of hours per year as they are working now, provided the hours are more evenly distributed through the year, for if they work as many hours, they will be exposed to same risks. We also have considered the fact that contractual hours of labor apply only to day workers, and that more than 60 per cent. of the miners work on a tonnage basis. To reduce the number of earnings hours during the year, particularly when one of the chief complaints of the miners is that they do not have sufficient hours of work and consequently cannot earn adequate wages, would clearly not be consistent with the Commission's conception of its duty.

"Therefore, our conclusion is that, under all the conditions, the eight-hour day should be maintained."

(9) The practice of car pushing stands, but with recommendations for careful consideration of ways and means for the introduction of ameliorating practices.

(10) Rules are set up under which new machinery can be introduced in the mines and thoroughly tested.

(11) A commission is set up for the Central Competitive Field to handle questions of differentials in rate and certain other matters.

(12) If the recommendations of the President's Industrial Conference are adopted in regard to industrial tribunals and boards of inquiry, this machinery is to be put into use in the coal industry. Otherwise, a special board is to be set up.

(13) Explosives are to be furnished miners at cost, cost to include handling and insurance.

(14) House coal is to be furnished to the miners at the tippie at the price they were paying on October 31, 1919, plus the average percentage allowed as an increase on the wage scale, i. e., 27 per cent., the miners to pay for delivery at cost.

(15) Charges for blacksmithing are not to exceed three-quarters of 1 per cent. of the miner's gross earnings.

(16) Special boards are to be set up for the Kanawha, Paint Creek and Cabin Creek fields, for District No. 12, Illinois, including Assumption and Decatur, Ill.; also for the State of Washington, each commission to handle specific local conditions.

The Summary of Recommendations

The report also recommends:

1. That an executive order be issued instructing Departments and Federal agencies to buy and store the winter's supply of coal before July 1 of each year.

2. That the Council of National Defense assume the duty of obtaining the support of the general public for coal storage.

3. That an executive memorandum be issued to the Interstate Commerce Commission, to the end that the Commission may aid in the solution of the transportation problems outlined, with particular attention to the question of seasonal freight rates, car supply and car distribution, as well as the problem of railway coal purchase for storage.

4. That the Governors of the various States be asked to issue executive orders to State institutions and departments for the purchase and storage of winter coal during the summer months.

5. That State railway and public utility corporations use their influence with the various utility commissions to induce the purchase and storage of coal by those corporations, reflecting, if necessary, the cost of such storage in the rates.

6. That a copy of this report go to the railroads, to the end that they may co-operate in regard to coal storage, car construction and distribution, and the reduction to a minimum of the practice of commandeering coal.

7. That a copy of this report be transmitted to the Federal Reserve Board, to the end that Federal Reserve Banks may favor, as eligible for rediscount, paper drawn against coal in storage.

8. That the Interstate Commerce Commission, State railway and public utility commissions within their jurisdictions issue rules controlling car distribution among mines, to the end that no particular mine or mines may be permitted to obtain, through a practice of car assignment and car guarantees, preferential car service.

9. That the practice whereby purchasing agents of carriers can use company control over car supply to force down the price of railway fuel be abolished.

10. That operators avoid the use for railroads of coal whose properties make it more valuable for other purposes.

11. That camp and housing conditions be improved.

12. That the good offices of the miners' international organization be exercised to maintain their expressed position favoring the introduction of labor-saving devices and machinery.

13. That the making of advances on miners' pay be discouraged in every way, but, if made, that they be made without discount, either directly or indirectly.

Discussion

The following statement is included in the report:

"In submitting this report particular attention is called to the fact that herein every effort has been made for the protection of the public, not only for the period under which this protection can be guaranteed by the Executive under the powers granted him by the Lever Act, but it has been our effort to go into the underlying causes for high costs and to offer some remedy therefor—this, in order that in the future, when the Government relaxes its control over prices, there may be a continuing force at work in the public interest.

"We believe it is obvious that unless some changes can be made toward the end of reducing costs in coal production and distribution, no act of Congress, no order of the Executive nor any other regulation by constituted authority can in the end provide against the continuing high costs.

"It is for this reason that we believe that this industry should be placed upon the proper basis for more continuous and thus more economical production and distribution, with the result that the cost of coal to the people will be reduced."

Comments

The report also states:

"We believe it is fair for us to report that in the neighborhood of 80 per cent of the total tonnage that has moved since October 31, 1919, has moved under contracts which carried what is generally known as the standard wage clause, providing for an increase in cost to the purchaser equivalent to the increase in costs resulting from an increased wage scale.

"This statement was made in order that there may be no misunderstanding on the part of the public and the public rate-making authorities."

Wages

The annual value of bituminous coal is \$1,300,000,000. The labor cost is 57 per cent, and totals \$741,000,000. Twenty-seven per cent of this amount is approximately \$200,000,000, which is the additional sum that would be aid to the miners as a result of the award, above what they were receiving on October 31, 1919. It must be borne in mind that the award is based on the status prior to the application of Dr. Garfield's 14 per cent. The 14 per cent, itself involved a cost of over \$104,000,000, to which the present award adds approximately another \$96,000,000.

Wage advances granted to miners between 1913 and October 31, 1919, averaged 43 per cent, for tonnage workers and 76 per cent, for day men. Wage advances to tonnage workers, after this award, will amount to 88 per cent, since 1913, while the advances to day men will

average 111 per cent. This difference is due to the fact that day men were relatively underpaid before the war. The 27 per cent, increase was apportioned to the miners along the lines of the award.

Intermittency in Working Days

The coal industry is a part-time industry, the number of idle days out of a possible 308 working days being, for the past 30 years, 93; in 1918, when the demand for coal was at the maximum, the principal cause for lost time was car shortage. This accounted for a total of 49 per cent, of all time lost. In 1919, when the war demands had ceased, "no market" accounted for 50 per cent. of the idle days.

Car Irregularity

The report states that for many years the railroads, and especially the coal-carrying railroads, have depended on a practice of commandeering coal assigned to other customers. In some degree, public utilities have counted on this form of priority. The railroads are consumers of about 30 per cent, of the total coal production of the country. We have presented to certain of the executives of the larger systems a request that the railroads accept the principle that it is their duty to the public to move coal, in the months that normally are months of low movement, to consumption terminals, such movements to be in excess of their then needs, thereby gradually accumulating a three months' supply before the winter, the railroads to come out at the end of the winter with possibly 20 or 30 days' supply on hand. This movement would be more economical than the movement in the winter, and, from the standpoint of the coal railroads at least, the lower cost of movement would, to a great degree, offset any cost of storage.

The acceptance of this principle by the railroad executive heads has been general. The Pennsylvania Railroad and the New York Central lines expressed their acceptance in an especially liberal spirit. The report states that this is a duty of the railroads and that some method should be devised under which they will provide such storage.

The report states that it is the commissioners' belief that the public utilities, too, have a duty to perform to the public, and that they should not rely on any form of priority when the pressure comes in the winter, and to this end that they should be called upon to move and store coal in the summer months in excess of their needs, going into the winter months with 60 days' supply in storage. The commissioners feel that these two groups owe this as a duty, and that in both cases, if there is an increased cost, it will be recognized by the rate-making authorities. In the case of the public utilities, it was in effect stated by a representative that he believed this plan or principle was sound.

The next largest group of coal consumers is

the steel industry. The commissioners have presented the problem to certain of the heads of important steel concerns, including the United States Steel Corporation, and they express an intention of increasing storage of coal and movement of the same in the months of low movement along the lines of the plan here suggested.

It is believed that the Federal Reserve Board and the several Federal Reserve Banks will favor considering as eligible for rediscount paper drawn against coal in storage.

In addition to these groups, the report recommends strongly that all Government institutions, national, State, municipal and local, purchase, receive and store coal during the spring and summer months in anticipation of the winter's requirements.

The commissioners state as their belief that if the various groups mentioned carry out the plan of storing from two to three months' requirements, beginning the winter with this supply on hand, the result will be a decided stabilization of the coal industry, a considerable measure of relief to the carriers, and a general economic saving to the public and the nation, and, further, that the practice would result in the minimizing of the commandeering and confiscation of coal on the theory of priority. The commissioners also feel that unless some plan of this kind is adopted, we are bound to have recurring conditions of coal shortage in the winter months, as in the past three years, and that no need for such a situation exists.

The Commission not only made its recommendations in regard to our use and storage, but has taken up with railways and public utilities the questions involved. It has already received the written approval and promise of support of the New York Central and Pennsylvania lines, the endorsement of the Association of Public Utility Commissions of the United States, and it is believed that the Federal Reserve Board will co-operate by favoring the rediscount of paper drawn against coal in storage.

The letter written by Commissioners Robinson and Peale to the President reads as follows:

"In transmitting the majority report of the Bituminous Coal Commission, may we call your attention to certain salient points:

"The increase in wages to the miners amounts approximately to 27 per cent.; that is, the 14 per cent. average increase granted by the Fuel Administrator when the strike was threatened has been eliminated and a 27 per cent. average increase substituted.

"Figured in dollars, the increase is approximately \$96,000,000 in excess of the advance allowed by Dr. Garfield. This means a total increase in wage cost of \$200,000,000 as compared with the cost on October 31, 1919.

"Every effort was made to ascertain the ac-

tual increase in the cost of living to the miners. Many different figures and opinions were presented. Our award, as the result of careful scrutiny of all the evidence submitted by the parties in interest and otherwise obtained, grants the miners an advance in wages larger than the percentage of increase in the cost of living submitted by their representatives.

"Tonnage workers will have received, under this award, an average increase in wages since 1913 of 88 per cent., and day men, part of whose previous advance was based on existing inequalities in compensation rather than on increased living costs, will have received an average advance of 111 per cent.

"The other main point of the United Mine Workers' contention—a reduction in the working hours from eight to six hours a day and five days a week—is not granted, for the reasons we state in the report. We are convinced that a curtailment of productive energy would react not only against the whole population, but against the miners themselves.

"It is essential that the miners shall have living wages. It is likewise essential in the public interest that there shall be no let down in production.

"We express the opinion that had we shortened the day by one hour, it would be equivalent to an additional cost of over \$100,000,000.

"We have sought and believe that we have found some of the principal reasons for the weakness in this uncertain and troubled industry, and we offer a method for remedying the most important of these conditions.

"The time has come for the people of the country, of which labor constitutes a large part, to look beyond temporary wage settlements and consider the general welfare, first, of the general public itself, then of the employees and employers.

"A wage settlement for the moment is not a correct or adequate answer to the problem. The coal industry has been on an unsound basis for years, because of its seasonal character and the resulting car shortages and car service intermittencies. The heavy movement of bituminous coal comes in the fall and winter. Inevitably, with the buying and movement limited to one season, there is a great car shortage which limits production. When the market drops in the spring and summer there are idle men, idle mines and idle cars. From the standpoint of employers and employees, the industry has yielded a hazardous return.

"The solution of the problem is to bring about evenness of production and distribution. This can be done by the co-operation of the railroads, public utilities and steel companies as consumers, on the one side, and of the operators, the Interstate Commerce Commission, the banks and the Federal Reserve System on the other side.

"We believe that the Federal Reserve Banks will view favorably the eligibility of commer-

cial paper based upon coal purchased and stored by the railroads and public utilities in the dull seasons. Some of the leading railroads have given assurances of their co-operation. Others approached have not.

"If virtually complete co-operation is assured, it will result in time in a substantially even production, continuous employment and even distribution throughout the year. The small consumer will then not have to compete with the large consumer in the winter, and will not be at the mercy of the practice of commandeering on the grounds of priority. Until this is done, wage costs must of necessity be high, but when this is accomplished prices should be more reasonable, employment more continuous, and the industry better stabilized. The present inexcusable and extravagant waste would then be eliminated.

"The mine workers themselves, we feel sure, recognize that no other remedy will be adequate. A shortening of the working day would seriously affect production, add additional workers to the industry and increase the present unsettled condition. This decreased production would, in turn, add still further to the cost of living, hitting the workmen in other industries, and continue the folly of such pyramiding.

"In transmitting this report to you, we wish to say that both the mine workers and the operators have given every assistance possible in the work of the Commission, and we wish to add that Mr. White has worked diligently and long on the problems which confronted the Commission. It is our sincere regret that Mr. White did not see fit to join us and make the findings and awards of the Commission unanimous."

EXCHANGE OF INFORMATION AS TO MARKET IS TABOOED

Judge McCall, United States District Judge at Memphis, Tenn., has rendered an important decision in the suit of the Government under the Sherman Act against the so-called "Open Competition Plan" of the hardwood lumber manufacturers who are members of the American Hardwood Manufacturers' Association.

The Government showed in this case that the members of the "Plan" continuously exchanged with one another, through a common secretary, reports showing their respective rates of production and stocks on hand, and also showing the prices which each member had received on actual sales of lumber.

It was established that the tendency of such an interchange of information among the defendants was to increase their prices, as the Government had charged. Nevertheless, the defendants contended that they were entitled to exchange the reports in question, which were referred to as "market information."

Notwithstanding the affidavits of practically all of the defendants that there had been no

agreements between them to increase prices, Judge McCall held that—

"It cannot be with reason denied that defendants formed a combination to promote the interests of the members of the plan by maintaining price levels, and it is difficult, if not impossible, on this record to escape the conclusion that the purpose and intention of the plan was to suppress competition among its members in the hardwood lumber manufacturing business, wherein the production of hardwood lumber was to be kept low enough to maintain prices on an ascending scale, but not so low as to drive prices to such heights that consumers would be induced to use substitutes. These two objectives mark the margins of the channels through which the members of the plan conducted by its manager of statistics were to steer interstate commerce in hardwood lumber and through which it was successfully steered on up to the filing of this bill."

And he enjoined the defendants from continuing to exchange the reports in question.

This proceeding was of a civil character, but the Department of Justice considers that the law as applied in the case is clearly established. The members of other corresponding organizations will not be considered by the department as entitled to conduct similar operations in future because they may have filed papers at Washington, or because of other similar reasons; and the department will, if necessary, institute proceedings of an appropriate character to enforce the law.

SAYS PARK BOUNDARY INCLUDES COPPER DEPOSITS

During consideration by the House Committee on Public Lands of the bill (H. R. 3006) by Representative Elston, California, adding 850,000 acres of land in the Sequoia and Sierra National forests of California to the Sequoia National Park and changing the name to Roosevelt National Park in honor of the late President Roosevelt, it developed that there are rich copper deposits in this region. Representative H. E. Barbour of California said he believed these lands contained some of the greatest copper deposits in the world, and he desired that the land be so held that it could be opened up for prospect. The committee has ordered the bill favorably reported to the House, and it provides that the act shall not modify or affect the mineral-land or coal-land laws now applicable to the lands thus added to the park, nor affect any valid existing claim, location or entry under the land laws for mineral or other claims.

Declines to Review Case

The United States Supreme Court has denied application for a writ of certiorari in the case of the American Ore Reclamation Co. vs. Dwight & Lloyd Sintering Co.

SEASONAL RAIL RATE AND FEDERAL COAL COMMISSIONER ARE PROPOSED

Legislation providing for a Federal Coal Commissioner, with experts and examiners in Washington, authorizing seasonal freight rates on coal and repealing Federal control over fuel, was proposed in the Senate March 17 by Senator Frelinghuysen (N. J.), chairman of the subcommittee of the Interstate Commerce Committee on coal prices. Other members of the subcommittee are: McLean (Conn.), Elkins (W. Va.), Myers (Mont.) and Wolcott (Del.). Senator Frelinghuysen introduced on behalf of the subcommittee three bills to carry into effect the purposes above outlined, which were referred to the Interstate Commerce Committee for hearing and consideration. In a speech in the Senate, the New Jersey Senator urged immediate consideration of the subject by Congress, saying it was of vital importance to the country.

The bill to terminate Federal control of fuel (S. 4088) provides that the power and authority to license the importation, storage, mining and distribution of coal or coke, to requisition coal or coke, to requisition or operate the plant, business or any appurtenances thereof belonging to any producer of or dealer in coal or coke, to fix prices for coal or coke, to regulate the production, sale, shipment, distribution, apportionment or storage of coal or coke, and all powers and authority incidental thereto conferred on the President or on any other agency of the Government under the Lever food and fuel control act of August 10, 1917, shall be terminated within 30 days of the approval of this bill. This bill also amends the Interstate Commerce Act by forbidding railroads to confiscate, seize or divert for its own use or for any other purpose, whether with intent to make proper compensation therefor or not, any coal or coke of which it is in possession solely as a common carrier and which the owner has not voluntarily sold or transferred or entered into contract to sell or transfer to such railroad.

The seasonal rate bill authorizes railroads to charge 15 per cent. less than the schedule freight rate on coal, coke, briquettes or boulets from April 1 to August 31 in each year, and 15 per cent. more than the schedule rate during the remainder of the year, or from September 1 to March 31. This bill is S. 4087. Senator Frelinghuysen said he had conferred with Chairman Clark of the Interstate Commerce Commission, who approved of this measure. The Senator also read a statement in behalf of such rates based on information supplied by Chairman Clark.

The bill to more definitely recognize the coal industry in Government is S. 4089, and it provides for the appointment of a Federal Trade Commissioner, with attorneys, special

experts, examiners, clerks and other employes in the District of Columbia. The bill is a comprehensive measure of 27 sections, minutely defining the powers and duties of the Commissioner, which are confined to investigations and for administrative purposes, excluding executive powers. Both bituminous and anthracite coal is to be under the province of the Commissioner, who is to be appointed by the President by and with the advice and consent of the Senate, to hold office for five years, at an annual salary of \$10,000.

A complete resume of this bill is given in this JOURNAL under the "National Legislation" Department.

In a speech preceding the introduction of these measures Senator Frelinghuysen urged the necessity of Congressional legislation to stabilize the coal industry. "There is nothing so vital to the interest of the country as a proper distribution of coal," he said. "At present there are several agencies controlling this industry, and to some extent interfering with it." He spoke of the Director-General of Railroads seizing and diverting coal belonging to other shippers and diverting it to essential industries, acting under powers conferred by the Fuel Administrator and proclamation of the President. He said the strike, weather conditions, shortage of cars, great demand for export coal, has created a shortage of supply, and the railroads are suffering from a lack of coal. In recognition of the fact that the most important and essential industry was the railroads, the Director-General has seized coal and diverted it from industries to the railroads. Mr. Frelinghuysen said he and other senators had been inundated with complaints against this policy.

"The Government is paying no attention to this problem, and neither is Congress," the Senator said, earnestly. He went on to say that his subcommittee had been studying the subject and had attempted to relieve the condition by bringing to the attention of the Director-General the needs of the operators at the mines through the shortage of cars. He referred to the fact that when the strike came there was a surplus of 30,000,000 or 40,000,000 tons of coal, which prevented a great deal of suffering and interference with industries of the East, South and Northwest. The Middle West suffered much more than other sections.

"At present there is an abnormal situation," continued the Senator. "A Government agency is fixing prices, seizing coal and throwing the flow of this commodity out of normal channels, thereby creating congestion and embarrassment of industries. The subcommittee has come to the conclusion that the difficulty at the present time is Government interference with price-fixing and distribution, and that the prac-

tical thing to do is to repeal these war powers, which were emergency measures enacted simply for the purpose of controlling prices during the war."

Senator Norris (Neb.) asked if some Government agency would not be required to exercise control for a time yet. Senator Frelinghuysen thought such control should only continue for a short while, but insisted that the Director-General was acting illegally and to the detriment of industry.

Senator Edge (N. J.) asked if repeal of Federal control would reduce the price of coal. Senator Frelinghuysen replied that it would probably not. Senator Edge favored the repeal of Federal control. Senator Calder (N. Y.) asked if cars which had been sent West with coal had not been returned. Senator Frelinghuysen said this was because of weather conditions, the coal being frozen in under depths of from 5 to 10 feet of snow, but this condition would soon be remedied.

Senator Norris asked if diversions of coal were any greater now than before the war. Senator Frelinghuysen said they were.

Taking up the seasonal coal rate bill, Senator Frelinghuysen said coal should be recognized by a Government organization like other industries, such as farming in the Agricultural Department and shipping in the Commerce Department. He thought the seasonal coal bill would do more than anything else to allay unrest among the miners, as it would induce mining throughout the year and provide them regular employment. He estimated that this country required 500,000,000 tons of coal a year. He estimated that 500,000 miners, working 230 days in the year, would produce 800,000,000 tons of coal a year. This would supply our annual needs with 150,000,000 tons for export, and the remainder could be stored in the East, South, West and other parts of the country, and the country would be fortified against a coal shortage. He said that he had conferred with Commissioner Clark on this bill, and said the commissioner approved of the plan. The plan would permit of the use throughout the year of the coal cars. He estimated such a plan would mean a saving of a billion dollars a year to the country. The 15 per cent. reduction rate in summer would keep the mines running, keep labor employed, provide a surplus; the 15 per cent. addition in rate was to compensate for the greater cost of mining in winter.

Senator Pomerene (Ohio) said representatives of iron and steel interests of Ohio had discussed this matter with him, and finding that the Interstate Commerce Commission could not change the rates without express authority from Congress, favored the proposal. He said some fault for car shortage lay with the railroads, charging that they permitted cars to remain idle with loaded ashes, and also permitted cars to haul automobiles when these cars could be better used in transporting coal.

GEO. OTIS SMITH URGES WORLD-WIDE HUNT FOR OIL

"Two tendencies in geologic work are noticeable, and both are in the right direction—geology is becoming more exact in method and result and geology is becoming broader in outlook," said Geo. Otis Smith in an address before the American Association of Petroleum Geologists. Continuing, he said:

"The oil geologist has a large share of responsibility for the future. His first duty is self-evident—to find the oil. No resource is more easily wasted than oil if individual desire for gain is given full sway and the larger rights of the people are lost sight of; nor, on the other hand, does any resource better lend itself to exploitation with a minimum of waste either of itself or of human effort. The oil geologist best understands conditions beneath the surface, and his peculiar responsibility therefore lies in protecting the oil sands from the effects of improper drilling and operation and in keeping the drilling program within economic limits. But the oil geologist who sells his service to any other operator whose drilling program plainly has as its purpose the drainage of the land that the operator neither owns nor leases is turning his back upon his opportunity for public service. Town-lot drilling is not only wasteful development, but even though legal, it involves disregard of property rights. So the duty of the oil geologist is plain, not only to set his face but to raise his voice against the unfair practice of mining oil with total disregard of underground property lines.

"As the technical advisor of a great productive industry, no one should be more sympathetic than the oil geologist with the enactment and enforcement of 'blue sky' laws. He can conserve capital as well as oil. The oil geologist's opportunity to serve the investing public thus becomes in part the opportunity of an educator, for there is much misunderstanding about the oil industry wholly apart from that caused by misrepresentation. There is too much glitter to the oil industry. 'Great commercial romance' is the literary term applied to this every-day kind of business of taking a dirty fluid out of a hole in the ground, pumping it around and then at a vile-smelling plant refining it into salable products. No one estimates the future value of this expendable resource, petroleum, with truer vision than the oil geologist, but what may soon be the demands for oil is beyond the vision even of a geologist. The secret of the capacity of Nature's storehouse is easier to unlock than the mystery of the progress in man's needs and desires.

"During the war America bent every energy to supply the Allied forces on sea, on land and in the air with motive power, and our oil wells, and especially our oil storage, met the emer-

gency. Today, our need is a domestic need—the arts of peace are requiring more oil than we have. We are forced to think of America first, and the oil geologist of all public servants owes his active allegiance to the American hunt for oil. American engineering and American capital must together enter the field of world-wide exploration for oil, and no oil geologist can be spared from this national project.”

Individual Well Records

Records of individual wells form the basis for the successful operation of any company engaged in the production of petroleum. The expense attached to the compilation of records is negligible in comparison with the benefits resulting from their use. Where a company has not a complete system of records, immediate attention should be given to the preparation of forms upon which to collect data and to the collection of data for these forms. The records needed vary with each district, but for each field a set should be adopted that will best meet the needs of each property.—Bureau of Mines.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of THE MINING CONGRESS JOURNAL, published monthly at Washington, D. C., for April 1, 1920.

City of Washington, |
District of Columbia, | ss.:

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared E. Russell Coombes, who, having been duly sworn according to law, deposes and says that she is the business manager of THE MINING CONGRESS JOURNAL, and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of Publisher—The American Mining Congress.
Postoffice address—Washington, D. C.

Officers:

Bulkeley Wells, President, Denver, Colo.
Harry L. Day, First Vice-President, Wallace, Idaho.
Daniel B. Wentz, Second Vice-President, Philadelphia, Pa.

E. L. Doheny, Los Angeles, Calif.

J. F. Callbreath, Secretary.

Editor—J. F. Callbreath.

News Editor—Paul Wootton.

Business Manager—E. Russell Coombes.

2. That the owners are (give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent. or more of the total amount of stock): The American Mining Congress—a corporation, not for profit. No stockholders.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are (if there are none, so state): None.

E. RUSSELL COOMBES,
Business Manager.

Sworn to and subscribed before me this 25th day of March, 1920.

(Seal.) THOMAS C. WILLIS.

(My commission expires February 20, 1922.)

PERSONALS

ARCHIBALD DOUGLAS of New York was in Washington during the month, conferring with the Internal Revenue Department on taxation matters.

JOHN H. HAAK, who has been in Washington for a considerable length of time, has returned to his home at Portland, Ore. Mr. Haak has been very much interested in relief for war minerals producers and in securing a tariff upon chrome.

GEN. JOHN T. BARNETT of Denver, Col., is in Washington in the interest of the Midwest Oil Co. upon matters pertaining to the Leasing Bill. His headquarters are 721 Munsey Building.

R. A. STURGEON of Pennsylvania has been appointed acting chief of the Coal Section of the Natural Resources Division of the Income Tax Unit, Internal Revenue Bureau, Treasury Department, in place of Mr. O. Hudson of Kansas, resigned.

A. E. WELLS, assistant chief supervisor of mine stations of the Bureau of Mines, with headquarters at Salt Lake City, has been detailed for special work with the Anaconda Smelting Co. He was recently in Washington for conference.

A. J. MAXWELL of Charlotte, N. C., has been recommended for appointment as Interstate Commerce Commissioner by the North Carolina Congressional delegation.

R. R. SAYERS has been detailed by the United States Public Health Service for permanent duty as chief surgeon of the United States Bureau of Mines.

GEORGE M. TAYLOR of Colorado Springs was a caller at the offices of the Mining Congress on March 26, where he discussed the present status of the campaign for the protection of gold producers.

REPRESENTATIVE ROBERT WALTON MOORE of Virginia has been appointed a member of the House Rules Committee in place of Representative Edward W. S. Saunders of Virginia, resigned.

LESTER H. WOOLSEY of New York, who has resigned as Solicitor of the State Department to form a partnership with former Secretary of State Robert Lansing in Washington in the practice of international law, was formerly an assistant geologist in the United States Geological Survey, and is the author of professional papers on scientific subjects. He contributed to the American Red Cross publication on "The Strategy of Minerals," the first chapter dealing with international relations as based on mineral resources.

THE INDUSTRY WITHOUT A LEADER

By GEO. H. CUSHING.

Orphans, imbeciles and industries without leaders enjoy a special dispensation of Providence. Otherwise they would quickly perish. Coal is the largest industry which has no leader. It never has had one. It wants none now—really, I mean. There are no indications even of any rising leadership.

It is admitted those are sweeping statements, but they can be proved. I submit one single incident as complete proof of all of them. Everyone, except the operators who were most vitally concerned, realizes that between September 25, 1919, and March 23, 1920, the coal industry passed through its greatest crisis. On the first of these dates the miners presented their post-war wage demands. On the last of those dates the Commission appointed by the President made known its award. In between those dates the industry had to defend itself against laborism on one side and paternalism on the other. It did neither. Instead, it fell prey to both. And the reason is that it had no one who could announce its policies or make his own policies those of the industry.

The President's Coal Commission says that the operators took only a defensive position. That is a fact which everyone knew and understood. The reason was that no one in the trade had a grasp of the situation; no one was looking beyond the present into tomorrow; no one could—or did—map out a plan which would lead coal safely out of today's trouble into tomorrow. There was no program; hence there was no aggression. The lack of aggressiveness in a fight means only to take the defensive.

There was a reason, to be sure, for this attitude of submissiveness. The central competitive field could not take a bold stand, because it could not count on the sure support of the outlying districts. No one knew what they would do. Also, there was, on the part of the non-union field, a measured distrust of the union districts. And inside the central competitive field there were State jealousies which were so pronounced they prevented the choice of any one man who could speak with authority for all. This apology for the lack of a coal program in the face of grave danger only emphasizes my assertion that there is no leadership today anywhere in coal. If there had been any leader in the past, his influence would have been over. Or, if any leader was to rise, he would have arisen at this time.

The Administration sensed this disorganization of coal and, seeing that great harm to the public interest might result, called Dr. Garfield back into power to meet the crisis by government action. The President thus tried to give the headless coal trade a leader of his own choosing. Dr. Garfield has many

qualifications for success in such a capacity. That is, he makes decisions quickly—and understands where they lead. He profits and learns by mistakes and has candor enough to admit it when he has made a mistake. He has—as he proved—plenty of courage to stand boldly behind a right decision when he has made it. And he has a personality which readily wins confidence and support. These things give him strength among men and tend to make him a leader. However, his one outstanding fault ruined him as far as the future of coal is concerned. He had formulated his theory about and his policies for coal long before he knew its problems. He worked these out years ago in the academic surroundings of Princeton. He tried to prove those old theories correct by allowing them to give form to his administration during the war. And even when they had been proved unworkable and when they had been repudiated by the nation, he did not change his opinion or his theory. Instead, his last act in power was to recommend in a speech the adoption in peace time of those policies which had failed during the war.

So, when he was called back into power on October 30, 1919, he had already been repudiated by an overwhelming vote of the operators and by public opinion. It was a political mistake, therefore, to call him again into the mastery of the coal trade. Even so, he did the best he could under the trying conditions, but won only humiliation for his pains. His recommendations were rejected by the miners; a Cabinet member summarily took matters out of his hands, and the President finally accepted his resignation. At that point coal lost the one opportunity it had in this crisis to gain a leader.

The utter poverty of the coal trade in the matter of strong men expressed itself a month later, when the operators of the central competitive field were called upon to state their case to the Coal Commission. Instead of speaking through a strong man chosen from their own ranks, they could not agree upon anyone and spoke instead through an attorney retained for that one job alone.

No; coal has no leader.

Coal doesn't want a leader, mainly because it isn't ready for one. It had an opportunity to get one three years ago, but failed either to appreciate the need for such a thing or to put forward the man who could unite the industry. Mr. Peabody, as the chairman of the Coal Production Committee of the Council of National Defense, might have become—as, indeed, he was for a while—the titular head of the industry. He was not chosen by coal men, but by his political friends. And he was overthrown not by the acts of envious politicians alone, but by the acts of men who stand

high inside the coal trade. This antagonism to him was not dictated by mere jealousy alone. The fact is that there was not then and is not now enough realization of the need for discipline, nor enough willingness to submit to it to enable the trade to pull itself together behind a chosen champion.

For an excellent reason, there are no indications that any leader is growing up—observed or unobserved—inside the trade. Those of us who have been long in coal can recall readily that men like J. P. Morgan and Alexander Cassatt aspired to years ago and more to leadership in coal. They knew, however, the peculiarities and complexities of the coal industry. They knew it ramified too far to come naturally to a focus in one concern like the United States Steel Corporation. So they did not try to bring coal to a head in one company which, because of its size, would give direction to the whole industry. Instead, therefore, of trying to crystallize the industry by one great act of financing, they tried to do the tedious job of directing its evolution. On that program they hardly won the undivided support of a single coal man. Naturally, a leader without a following is quite a forlorn object.

The reason they failed is obvious. The coal man does not want evolution, because he doesn't understand it. He is for quick action. So he wants something that he can see and feel and that will give results at once—sure results. He is forever falling into difficulty, but rather than try to build a safe road out he wants to be yanked out. And with his immediate results he wants a long-time program. No man is offering or can offer either. Hence there is neither hope nor prospect of any leadership arising soon. Indeed, the whole thought of the trade about its future must be changed before a leader is possible.

The dangerous significance of all this is that the trade cannot, and therefore does not, offer serious resistance to any enemy on any point. Anyone can attack it and escape practically unscathed. For example, the mine workers are not a part of the coal trade. They are part of the labor movement. What they want will not help coal, but rather will tend to destroy coal. Everything they ask will help laborism at the expense of coal. Still, the mine workers are capably led and, in public at least, that leadership is real. When the mine workers attack the coal trade they are argued with, but they never have been really resisted. They can't be resisted. There is no one to do it.

At the minute the meanest politician of the nation can throw the coal industry into qualms of terror by merely taking the offensive. He may have no following and that fact may be known and admitted. Still, the coal men cover before him. What they see is the fact that he has taken a stand against coal and may in time collect a following. However, the coal men know that they have no one to meet this opponent in the open. And

if such a one did come forward, he could not command a corporal's guard with enough courage and persistence to see his fight through. It is this known inability of the trade to defend itself which causes the coal man to fear any attack—no matter how insignificant the source—made upon it.

Of course, I think I know the reason for this lack of any semblance of an organization and for the cowardice on the part of the trade. I saw it crop out many times within the last five months. The coal trade exacts too much of its temporary spokesman. For that reason, it never gives them time to develop. It wants impossible perfection, which is born full grown. Unless it can get that it will take nothing. It wants a leader who can give it within a month a complete, ready-to-use revolution. Such a paragon does not exist, and never will. For that reason, the coal industry has no sustained leadership. Instead, in time of stress coal men break up into small bands or groups which, by acting independently of all others, present as many conflicting ideas and wishes as there are groups. This sort of scattered fire, which alone the coal trade employs, can be only ineffective. It can never mean aggression. It can only mean a defensive policy which is weak.

So I end where I began. Only a continued special dispensation of the Almighty can or will save the coal industry from annihilation.

OLD REGULATIONS TO GOVERN RETURN OF OPEN-TOP CARS

The supply of cars available for the transportation of coal is insufficient to meet the demand. Unusual movements incident upon the strike of coal miners has brought about an abnormal location of cars. It is desirable that the proper relocation of cars shall be brought about as rapidly and with as little confusion as is possible, states the Interstate Commerce Commission. Critical situations still exist in which fuel for essential industries and purposes must be provided. The railroads and the coal operators have all been working under the uniform mine rating and car distribution rules established by the Railroad Administration, and those rules seem to be generally satisfactory and to meet with general approval, the Commission says.

To the end that conflicting and contradictory rules on different roads and in different fields may be avoided in the unusual conditions which now exist in the industries and on the roads, the Commission recommends that until experiences and careful study demonstrate that other rules will be more effective and beneficial, and especially during the remainder of the early spring, the uniform rules as contained in the Railroad Administration's Car Service Section Circular CS-31 (Revised) be continued in effect.

CANADIANS HEAR OF ACHIEVEMENTS OF AMERICAN MINING CONGRESS

The Twenty-Second Annual Session of the Canadian Mining Institute was held in Toronto March 8-10, 1920. There were present from the United States Mr. E. P. Mathewson and Dr. Henry M. Payne of the American Mining Congress; Dr. Bradley Stoughton and Mr. P. E. Barbour, representing the American Institute of Mining and Metallurgical Engineers, and Mr. R. Dawson Hall and E. H. Robie, representing *Coal Age* and the *Engineering and Mining Journal*.

The special papers of the first day's session pertained especially to iron, steel, tin and nickel development. In the evening a series of moving pictures were shown of the Government operations at Alfred, Ont., where there are large peat deposits which are being lifted, macerated, dried and shipped for commercial use.

The second day the morning session was devoted to fuel problems in Canada, the latest developments in briquetting and transportation. It was the general feeling of the Institute that Canadian coal deposits should be developed in order that the Dominion might be less dependent upon the United States for its coal supply.

A complimentary luncheon was given the attending delegates by the Mayor and the City of Toronto, at which Dr. Stoughton humorously responded in behalf of the American visitors.

The afternoon was devoted to oil and gas sectional meetings and a visit to the new plant of the Goodyear Tire & Rubber Co., followed in the evening by a smoker and concert presided over by Col. J. J. Penhale.

On Wednesday the encouragement of prospecting by the Government, the development of the asbestos industry and a discussion of engineering standardizations with special reference to the mining industry, by J. B. Porter, received the attention of the Institute.

In the afternoon gold and silver problems were discussed, with a recommendation for the adoption of pure nickel coinage. In the evening the annual dinner occurred, at which Mr. Mathewson toasted the Mining Industry; Dr. Stoughton, American Institute of Mining and Metallurgical Engineers; Dr. Payne, American Mining Congress, and Mr. R. Dawson Hall, the "Technical Press."

Mr. Mathewson in his speech voiced the opinion of many of the members that the time has come for more active work in governmental and legislative matters pertaining to the mining industry to the end that the Institute should be less of a technical and more of an industrial organization.

Following this lead, Dr. Payne outlined the achievements of the American Mining Congress and the methods by which these had been attained, and outlined how similar efforts

by the Canadian Mining Institute could only result in a largely increased sphere of activity in Canadian mining matters. This would necessitate the moving of headquarters to Ottawa and an increased secretarial staff.

The suggestions met with hearty applause, and many of the members present expressed a desire to see this work immediately taken up in Canada.

On Thursday the visiting delegates were invited on an excursion to the plant of the International Nickel Co. at Port Colborne.

CLAGETT TO WIND UP COAL DIVERSION MATTERS

The Division of Purchases of the Railroad Administration was discontinued, effective April 1, 1920. Henry B. Spencer, Director of the Division, has been elected president of the Fruit Growers' Express Co., effective April 1. Mr. Spencer will become an advisory member of the Director-General's staff with respect to matters growing out of purchases during the period of Federal control of railroads.

Such portions of the work of the Division of Purchases as remain to be completed after April 1, with the exception of the completion of activities incident to control over the distribution of coal, will be under the direction of the Division of Liquidation of Claims, Mr. Max Thelin, director.

Control over the distribution of coal growing out of the strike of bituminous coal miners will end on April 1, in accordance with Executive Order of the President. Any work remaining to be done in connection with the winding up of the matters relating thereto will be dealt with in the Director-General's office through Brice Clagett, assistant to the Director-General.

Cited by Trade Commission

The Federal Trade Commission has cited the Valvoline Oil Co., New York city, alleging the use of unfair methods of competition and "tying contracts" in the sale of oil and gasoline, and in the leasing of oil pumps, storage tanks and equipment.

The complaint is directed to the respondent's practice of leasing its devices and equipment with the understanding that the lessee shall not use in such devices refined oil or gasoline of a competitor.

The Commission has also cited the Vacuum Oil Co., New York city, for unfair competition in the manufacture and sale of petroleum and its products.

The complaint is directed to the practice of giving accumulative discounts or rebates to cause purchasers to confine their purchases exclusively to respondent's products.

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OFFICERS:

Bulkeley Wells, President.
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Paul Wooton, News Editor.
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FACTS REGARDING RECIPROCITY IN OIL EXPLOITATION ASKED

The Senate has passed a resolution requesting the President for information as to restrictions imposed by other countries on Americans engaged in exploration and development of oil lands, and what steps have been taken by this Government to secure equality of treatment.

The resolution specifically asks what restrictions are imposed by France, Great Britain, Holland, Japan or any other foreign country upon citizens of the United States in prospecting for petroleum or in the acquisition and development of lands containing same. It also asks what restrictions are imposed by Mexico upon citizens of the United States in regard to the acquisition or development of petroleum-bearing lands which are not imposed upon nationals of other countries, and what steps have been taken by the American Government

to secure the removal of these restrictions and obtain equality of treatment of Americans.

In debate on the resolution discussion was had as to the application of the recent leasing bill to development of oil lands in foreign countries. Senator Smoot (Utah) said the bill provided that in case of a restriction in a foreign country against Americans, the President might prevent citizens of foreign countries securing leases on oil lands in the United States.

Senator Phelan (Cal.) referred to his having sought an amendment to the leasing bill placing an embargo upon exportation of all oils developed on private or public lands, to deter foreigners from acquiring lands now open to them as in Oklahoma, Texas and California. There was nothing to prevent foreigners from acquiring through a corporate organization our valuable oil properties. The pending resolution would develop these facts in an official way.

Senator Hitchcock (Neb.) said there was no objection to seeking information as to what restrictions foreign governments have placed on Americans in this respect, but he doubted if the President could take steps to remove them, in view of the fact that Congress had adopted retaliatory provisions in the leasing bill, as above noted.

Senator Gore (Okla.) said it would be better to bring about a policy of reciprocity between this and other countries in regard to the development of oil territory. Noting a statement of an English petroleum expert that within ten years the United States will have to purchase annually 500,000,000 barrels of oil produced in British territory, the Senator said this would mean an enormous expenditure by the people of this country for a national resource produced by foreigners, from which our people are excluded, as well as control of international shipping. Persia had granted Great Britain a concession of 500,000 square miles, and Great Britain excludes citizens of this country from prospecting for oil in that region. He understood Americans were not permitted to own stock in oil companies exploiting in that country. The same restrictions applied to Mesopotamia.

Proposes Repeal of Pittman Act

A bill has been introduced in Congress by Representative McFadden to amend the Pittman Silver Act of April 23, 1918. The proposed legislation provides that all standard silver dollars be broken up and sold as bullion instead of limiting the amount, as the Pittman Act has done. Secondly, the McFadden bill would repeal the repurchase clause of the Pittman Act specifying the restoration of the melted silver at \$1 per ounce. Furthermore, the new bill provides that all future coinage of subsidiary silver pieces is to be 800 fine instead of 900 fine. Hearings on the new measures are being held by the House Committee on Banking and Currency.

INCREASED COMPENSATION FOR TECHNICAL EMPLOYEES IS URGED

To meet the need for increased compensation caused by the high cost of living, the Joint Commission on Reclassification of Government Salaries has made a report readjusting the pay of Federal workers and which, it is believed, will materially benefit those attached to the scientific services, including the Bureau of Mines and Geological Survey. The recommendations for salaries in mining engineering are as follows:

Mining Engineering Aid—Minimum salary, \$1200; maximum, \$1800, with opportunity for five promotions at \$120 each.

Junior Mining Engineer—Minimum salary, \$1800; maximum, \$2160, with three promotions at \$120 each.

Assistant Mining Engineer—Minimum, \$2400; maximum, \$3000, with five promotions at \$120 each.

Associated Mining Engineer—Minimum, \$3240; maximum, \$3840, with five promotions at \$120 each.

Mining Engineer—Minimum, \$4140; maximum, \$5040, with five promotions at \$180 each.

The compensation for Senior Mining Engineers and the Director of the Bureau of Mines is to be determined by the Civil Service Commission after consultation with the heads of departments or independent establishment concerns.

For Petroleum Engineering, recommendations are as follows:

Junior Petroleum Engineer—Minimum, \$1800; maximum, \$2160, with three promotions at \$120 each.

Assistant Petroleum Engineer—Minimum, \$2400; maximum, \$3000, with five promotions at \$120 each.

Associate Petroleum Engineer—Minimum, \$3240; maximum, \$3840, with five promotions at \$120 each.

Petroleum Engineer—Minimum, \$4140; maximum, \$5040 with five promotions at \$180 each.

The pay of the Senior Petroleum Engineers is to be fixed by the Civil Service Commission.

For Geologists recommendations are made as follows:

Aid in Geology—Minimum \$1200; maximum, \$1800, with five promotions at \$120 each.

Junior Geologist—Minimum, \$1800; maximum, \$2160, with three promotions at \$120 each.

Assistant Geologist—Minimum, \$2400; maximum, \$3000, with five promotions at \$120 each.

Associate Geologist—Minimum, \$3240; maximum, \$3840, with five promotions at \$120 each.

Geologist—Minimum, \$4140; maximum, \$5040, with five promotions at \$180 each.

The compensation of the Director of the Geological Survey and Senior Geologists is to be determined by the Civil Service Commission.

For Metallurgists, recommendations have been made as follows:

Junior Metallurgist—Minimum, \$1800; maximum, \$2160, with three promotions at \$120 each.

Assistant Metallurgist—Minimum, \$2400; maximum, \$3000, with five promotions at \$120 each.

Associate Metallurgist—Minimum, \$3240; maximum, \$3840, with five promotions at \$120 each.

Metallurgist—Minimum, \$4140; maximum, \$5040, with five promotions at \$180 each.

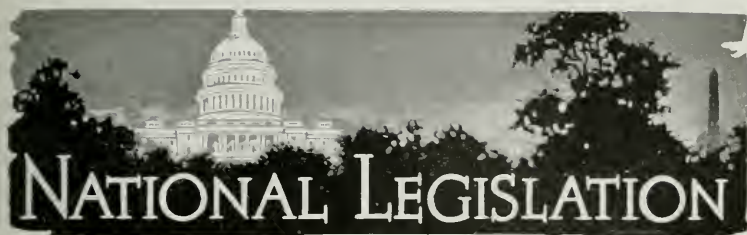
The salary of Senior Metallurgists is to be determined by the Civil Service Commission.

Industrial establishments which may request salaries in labor disputes will be interested in the fact that the Commission recommends a salary of \$8 to \$15 a day for labor conciliators, with the pay for the director and assistant director of conciliation to be fixed by the Civil Service Commission.

REGULATIONS FOR LEASING COAL LANDS ARE APPROVED

Secretary Payne has approved rules and regulations for the prospecting for and leasing of coal deposits of the United States under the act of February 25, 1920. The act provides for the disposition of all coal deposits owned by the United States, except in national parks, military or naval reservations, and in the Appalachian Forest Reserve. Known coal deposits are to be divided into leasing units of not exceeding 2560 acres each, and one person or corporation may hold but one lease in a State. Leases for the units are to be offered for competitive bidding at a royalty fixed in advance, not less than five cents per ton, and awarded to the qualified person bidding the highest bonus. The Secretary of the Interior is authorized to grant prospecting permits to qualified citizens to search for unknown coal deposits or to explore undeveloped lands where preliminary work is necessary to determine the existence of workability of the deposits. In such cases the permittee who finds or demonstrates workable coal deposits may have a lease on such royalty as may be fixed by the Secretary of the Interior.

The Geological Survey has classified 30,000,000 acres of public lands as containing deposits of coal, and an area of 40,000,000 acres, part of which undoubtedly contains such deposits, is awaiting classification. The coal which may be obtained under the act varies from low-grade lignite to very high quality of bituminous coal. These regulations do not apply to Alaska, where coal deposits are leased under act of October 20, 1914.



Up to this writing—April 1—there have been introduced in the House and Senate 17,432 bills—4136 in the Senate and 13,296 in the House. The Senate has been fully occupied during the past month with the Peace Treaty, and the House with the large appropriation bills. The Senate Finance Committee, which has had before it the bills for a protective tariff on magnesite, tungsten, zinc, etc., on March 2 reported favorably the magnesite bill, and on March 23 reported the tungsten bill, with amendments. It also voted to favorably report the zinc bill, but has not yet done so. On March 25 Mr. Garland, chairman of the House Mines and Mining Committee, reported the bill for the relief of war minerals producers, which report is exceedingly favorable to the claimants. It is probable that this bill will receive early consideration.

The Judiciary Committee, which has before it the Volstead Blue Sky Bill, will begin hearings on that measure as soon as the Attorney-General renders his decision to the committee as to whether the bill will protect investors against false pretenses. Mr. Volstead, in answering the criticisms on this measure, says that the bill does not grant powers without limitations to the Attorney-General, and that before the Department of Justice can bar from interstate commerce persons who are using fraud in the selling securities the security must be examined to determine whether there is any reasonably ground for the action. He says the bill will not hurt legitimate security nor interrupt the marketing of bona-fide new securities, but will keep off the market worthless securities which cannot stand investigation.

The Senate on March 22 passed S. 3223, which authorizes the Federal Trade Commission to accept and administer for the benefit of the public and the encouragement of industry, inventions, patents and patent rights, etc.

On March 22 the Senate Finance Committee reported out the bill H. R. 7705, imposing a tariff on the manufacture of pearl buttons.

One of the most important bills introduced during the session is H. R. 13201, which provides for the protection of the monetary reserves, and which is reviewed in the follow-

ing resume of bills introduced since our last issue:

Gold

H. R. 13201. Introduced by Mr. McFadden, referred to the Committee on Ways and Means. (*Monetary Gold Reserve.*) The bill provides that after May 1, 1920, in addition to any existing tax now assessed thereon, there shall be levied, assessed, collected and paid a tax of 50 cents per pennyweight of fine gold contained in all gold manufactured, used or sold for other than coinage or monetary purposes, by or for a manufacturer or dealer, or his estate, and upon the gold contained in any manufactured articles sold by any dealer, manufacturer or his estate. The bill also provides for the stamping of every manufactured article or package containing same in which gold is used with a stamp to be provided by the Internal Revenue Department, which department has the power to provide the rules and regulations surrounding the use of the stamp. On account of the impracticability of suitably stamping finished dental restorative appliances, the Internal Revenue Department shall further prescribe rules and regulations for the collection of the tax upon all gold used for dental purposes. Gold used by the Government for dental, medical and surgical purposes and employed in dental services rendered to war-risk insurance patients by the United States Public Health Service is exempt from taxation. Also all gold used for restorative dental work for children not over 15 years, and in dental infirmaries conducted for the benefit of the poor, and not for private profit, is exempt.

All money so collected shall be paid to the Treasurer of the United States, and shall be designated by him as "the gold premium fund," which fund, together with any other funds in the Treasury not used for specified purposes, shall be paid by the Secretary of the Treasury as a premium after May 1, 1920, and for five years thereafter, to the producers of new gold in the United States or its possessions upon the basis of \$10 per fine ounce.

After May 1, 1925, both the tax and premium above referred to shall be annually readjusted by the Secretaries of the Treasury, Commerce and Interior, which adjustment is to be made in accordance with the commodity

price index number of the fifth year of the five-year period, as compared with the average commodity price index number for the first four years of such period. The index number of all commodities governing the readjustment shall be ascertained and published by the Bureau of Labor Statistics of the Department of Labor. The tax and premium as readjusted shall be collected and paid during the next year ensuing, and each readjustment shall be made annually prior to the first day of May, which shall determine the amount of tax and premium to be collected and paid.

Producers of new gold are required, in order to be entitled to the provisions of the Act, to deliver the gold so produced to the United States Mint, or its authorized agencies, with a sworn statement setting forth the place where the gold was mined, the dates between which it was mined and prepared for market, and that no gold obtained from any other source is contained therein. In the event the gold was recovered from ore by smelting or milling, the proprietor, his managing agent or an executive of the milling company must deliver to the producer a sworn statement, stating the date on which ore was delivered and date on which gold recovered from the ore was delivered. Upon such evidence the Director of the Mint shall execute to such producer a certificate setting forth the number of fine ounces of newly mined or smelted gold, and set forth the amount of premium to which the producer is entitled. In the event that a smelter or mill cannot treat the gold ore when presented by the producer without delay, the smelting or milling company may follow the usual practice—purchase the ore, receive the certificate under oath of the producer, setting forth the time and place of mining thereof, and pay the producer the premium upon each fine ounce of gold recovered, upon payment of which the smelting or milling company shall be entitled to all of the rights of the producer of the ore, and upon presentation of the certificate of producer, together with a certificate showing smelting or milling shall receive the premium for such gold produced.

It is specifically provided that no gold bullion in any form whatever shall be issued to a gold producer in payment for the newly mined gold. Failure to strictly comply with the terms of the bill, both as to collection of excise and adulteration of gold presented for premium, is punishable by a fine of \$10,000 or five years imprisonment, or both.

H. R. 13013. Introduced by Mr. Evans of Nevada. (*Income and Excess Profits Tax.*) The bill provides that hereafter no tax shall be levied, assessed or collected on or from the income or profits of any individual, firm or corporation accruing to or derived from the business of mining the precious metals gold and silver. All provisions of any law in conflict with this Act are hereby repealed.

H. R. 13262. Introduced by Mr. McFadden, referred to the Committee on Coinage, Weights and Measures. (*Coin Destruction.*) The bill provides that any person who purposely and knowingly, by any art, way or means shall, except as authorized by law, totally destroy any gold or silver coins (with the exception of the standard silver dollar of the United States), as such, which have been or which may hereafter be coined at the mints of the United States, or any foreign gold or silver coins which are by law or which hereafter may be made by law current, or are in actual use and circulation as money within the United States, shall, upon conviction, be imprisoned not more than five years and fined not more than \$10,000.

War Minerals

H. R. 13091. Introduced by Mr. Garland, referred to the Committee on Mines and Mining. (*War Mineral Relief.*) The bill provides for further relief to war minerals producers and amends the Act approved March 2, 1919, by amending Section 5 by striking out the words "that the decision of said Secretary shall be conclusive and final, subject to the limitations hereinafter provided." Paragraph 4 of this Section is amended by inserting after the words "that nothing in this section shall be construed to confer jurisdiction upon any court to entertain a suit against the United States" and the following words, "except as provided in Section 6." The Act of March 2 is also amended by adding at the end a new section which provides that any claimant who has filed a claim under Section 5 within three months after March 2, 1919, whose claim has been rejected or who is not satisfied with the decision, adjustment, liquidation or payment of net losses by the Secretary of the Interior under such section, may file a petition in the Court of Claims for the final determination of such losses. If before this section takes effect the Secretary has made a final decision of such claim, the petition must be filed within 60 days after this section takes effect, and in all other cases within 60 days after such final decision is made. The Court of Claims is hereby given jurisdiction to hear such claims *de novo* and to render judgment in accordance with Section 5 for such amount as it finds to be justly equitably due to the claimant in adjustment, liquidation or payment of such losses. Any payments made to the claimant under Section 5 shall be certified by the Secretary of the Interior to the Court of Claims, and after judgment has been rendered by the court no further payments shall be made under Section 5 unless in conformity with such judgment. The receipt of any amount or the giving of any acquittance or release by the claimant under Section 5 shall not be a bar to the remedy provided for by this section; but if any amount has been awarded and paid under Section 5, the peti-

tion may not be considered until the petitioner executes a bond in an amount and with sureties satisfactory to the chief clerk of the Court of Claims, conditioned that if the court finds that a less amount is due than has been awarded by the Secretary of the Interior, the claimant will forthwith pay to the United States so much of the amount received under Section 5 as is in excess of the amount found due by the court. Any amount thus paid to the United States shall be credited to the funds available for the paying of awards under Section 5 and of judgments under this section. Upon the filing of a petition in the Court of Claims under this section, the Secretary of the Interior shall forthwith certify to the court all the testimony taken in the case and all documentary evidence introduced by the Secretary or any commission appointed by his authority, and such testimony and evidence shall be used and considered by the court upon the hearing and trial of the claim, and shall be given such weight as the court may determine. Each judgment rendered by the Court of Claims shall be certified by the chief clerk of the court to the Secretary of the Treasury, who is authorized and directed to pay to the claimant the amount of such judgment.

Tariff

H. R. 13173. Introduced by Mr. Watson of Pennsylvania, referred to Committee on Ways and Means. (*Antimony.*) The bill is intended to create a source of revenue and encourage production of antimony salts, titanium salts, hydrosulphites, sulphonylates and artificial bases by amending paragraph 144 of Tariff Act of October 3, 1913, as follows:

"Antimony, as regulus or metal, and matter containing antimony, but not containing more than 10 per centum of lead, 10 per centum ad valorem; antimony oxide, 25 per centum ad valorem; antimony salts, titanium salts, hydrosulphites, sulphonylates and artificial bases, 7 cents per pound and 45 per centum ad valorem."

H. R. 6238. Introduced by Mr. Gore, referred to the Committee on Finance. (*Amending the Zinc Bill.*) This bill is an amendment to 6238, which provided for a tariff upon zinc ores. The amendment provides that no citizen or subject of any country which requires by law, regulation or otherwise any stipulation in any contract, lease, sale or other agreement relating to mines or minerals, including petroleum, in the said country or its possessions or dependencies, which prevents or prohibits American citizens, because of their nationality, from being shareholders, or which limits the number of shares which may be held by American citizens in such undertakings, places restrictions on American citizens holding any position in the company or on

the board of directors, or to act on the board or in any managerial capacity whatsoever in connection with any company having any right, title or interest whatsoever in mines or minerals in the United States or its dependencies, so long as the restrictions before mentioned shall remain in force in any law to which the government of the foreign country or any of its officials or representatives is a party. That no alien company which by its articles of incorporation prohibits American citizens from being shareholders or which limits the number of shares which may be held by American citizens or prohibits American citizens from holding any position on the board of directors or in the company shall be permitted to hold either directly or indirectly any right, title or interest in any mine or mineral deposit, including petroleum, in any part of the United States or its dependencies. That if any of the things prohibited by the amendment shall be continued or commenced after June 30, 1922, the positions held by aliens shall become vacant, and any and all acts performed by them shall be without legal force. The Attorney-General has the right to confiscate and sell such shares.

H. R. 4437. (*Tungsten.*) The Senate Finance Committee on March 22 reported out the bill for a protective tariff on tungsten, which bill was reviewed in the June, 1919, issue of THE MINING CONGRESS JOURNAL. The bill has been revised in committee to provide that during the period of three years after the day following the passage of the Act there shall be levied, collected and paid a duty, first, upon tungsten-bearing ores and concentrates of \$9 per unit of tungstic trioxide therein contained. Second, upon metallic tungsten, tungsten powder, scrap steel containing tungsten fit only to be remanufactured, ferrotungsten, ferrotungsten powder, commercial tungstic acid, calcium tungstate, sodium tungstate and all other salts of tungsten and other manufactured material containing tungsten (except high-speed tungsten steel and all alloy steels containing tungsten) and all other compounds containing tungsten not specifically provided for in this section of nine-tenths of one cent per pound of each of said substances or materials for each per cent., or fraction thereof, of tungsten contained therein. The original Section 2 is eliminated, but provides a tariff of 35 per cent. ad valorem upon all high-speed tungsten steel and all alloy steels containing tungsten. The last section of the bill remains the same, providing the Act shall be deemed not to repeal any tariff now existing upon any substances or materials mentioned in the Act.

Labor

S. 4107. Introduced by Mr. Sheppard, referred to the Committee on Interstate Commerce. (*Bureau of Interstate Co-operative*

Associations.) The bill provides for the establishment, in the Department of Labor, of a bureau as above stated, to be headed by a commissioner, whose salary is \$5,000 per year. Section 2 provides that persons, not exceeding 50 in number, may associate themselves as a co-operative association for the purpose of conducting interstate business on the co-operative plan, provided they do not transact business for profit. Each member has one vote, and if any surplus accrues between cost and selling price, it must be used for the common good of the members, or returned to patrons in proportion to their purchases of sales. Articles of incorporation must be made out and filed with the Secretary of Labor, who shall issue a certificate of incorporation upon the payment of \$10 to the Department of Labor and \$5 for each amendment. Each association must be managed by a board of directors, of not less than five, and has the power to conduct an interstate business on the co-operative plan. No stockholder shall own shares of greater par value than \$1,000 unless the association purchase the business of another association and the cash value of such business exceeds \$1,000, when the directors are authorized to hold the shares in excess of the amount stipulated, in trust for the vendor, and dispose of them to such persons as may be mutually satisfactory to the parties interested, the proceeds to go to the former owner of the business. After interest on capital stock is paid, and at least 10 per cent. of the surplus savings shall have been set aside as a reserve fund, an assessment of 5 per cent. is levied against the remaining surplus of each association and paid to the Secretary of Labor for the purpose of creating a creditors' guarantee fund, and for the purpose of refunding and re-establishing failing associations.

H. R. 12977. Introduced by Mr. Johnson of Washington, referred to the Committee on Immigration and Naturalization. (*Amending the Naturalization of Aliens Bill.*) The bill amends the fourth paragraph of the second subdivision of the Act of June 20, 1906, by striking out that portion which requires the alien at the time of filing his petition with the clerk of the court a certificate from the Department of Labor, etc., and substituting therefor: "At the time of filing his petition there shall be filed with the clerk of the court the declaration of intention of such petitioner, which shall be attached to and made a part of said petition." The tenth subdivision of Section 4 is so amended that any person not an alien enemy who resided within the United States during the period of five years next preceding July 1, 1914, and was on that date otherwise qualified to become a citizen, except that he had not made the declaration of intention, may file a petition for naturalization without making the preliminary declaration of intention. The bill quite lengthily goes into

various phases, and appropriates the sum of \$25,000 to carry out the purposes of the Act.

S. 4032. Introduced by Mr. King, referred to the Committee on Immigration. (*Bureau of Naturalization.*) The bill amends the Act to provide for the establishing of a Bureau of Naturalization, etc., by providing that the Secretary of Labor may designate members of the Naturalization Bureau and Service to execute declarations of intention and petitions for naturalization made by aliens, which shall thereafter be filed with the clerk of the appropriate court exercising naturalization jurisdiction. The bill also amends Section 4 of the above-mentioned Act by providing that the requirements in Sections 4 and 6 of the testimony in open court by the subscribing witnesses may be waived by the court upon motion of the representative of the Government from the Bureau of Naturalization at the hearing of any petition for naturalization, and the testimony of the Government's representative may be accepted in lieu of the testimony of the witnesses, but it shall not be so construed as to defeat the right of the petitioner to have the witnesses appear and be heard in his behalf.

Coal

S. 4088. Introduced by Mr. Frelinghuysen, referred to the Committee on Interstate Commerce. (*Federal Control.*) The bill provides that the power and authority to license the incorporation, storage, mining and distribution of coal or coke, to requisition coal or coke, or requisition or operate the plant, business or any appurtenances thereof belonging to any producer or dealer in coal or coke, to fix prices, regulate the production, sale, shipment, distribution, apportionment or storage and all powers and authority incidental thereto, conferred on the President or on any other agency of the Government, shall terminate, except that such powers and authority shall continue in full force for 30 days after this Act becomes a law, to the extent that may be necessary to settle and wind up all matters growing out of the exercising of such powers. Such termination of powers and authority shall not affect any act done or any right or obligation accruing or accrued, or any suit or proceeding had or commenced in any civil case before the date this Act becomes law; but all rights and liabilities under such Act arising before the termination of such powers and authority shall continue and may be enforced in the same manner as if such powers and authority had not been terminated. Section 2 of the bill amends the Interstate Commerce Act by providing that hereafter no carrier by railroad subject to this Act shall confiscate, seize or divert for its own use, or for any other purpose, whether with intent to make proper compensation or not, any coal or coke of

which it is in possession solely as a common carrier, and which the owner has not voluntarily sold or transferred or entered into a contract to sell or transfer, to such carrier by railroad.

S. 4089. Introduced by Mr. Frelinghuysen, referred to the Committee on Interstate Commerce. (*Federal Coal Commissioner.*) The bill is to be known as the Federal Coal Commissioner Act, and includes both anthracite and bituminous coal. Section 3 provides for the appointment by the President of a Federal Coal Commissioner, who shall hold office for a term of five years and receive an annual salary of \$10,000. The commissioner shall not engage in any other business, vocation or employment. He may be removed by the President for inefficiency, neglect of duty or malfeasance in office. In case of a vacancy in the office of commissioner, the President shall appoint, by and with the advice and consent of the Senate, a person to serve as commissioner for the remainder of the unexpired term. Section 4 provides for a secretary at a salary of \$5,000 per year; he also may employ and fix the compensation of attorneys, special experts, examiners, clerks, etc. The principal office of the commissioner shall be in the District of Columbia. The commissioner is authorized to investigate the organization, management and practices of dealers and operators' costs and profits in connection with the mining, sale and distribution of coal, the terms contained in leases of coal mines, the prices demanded or received for coal, the distribution, storage and sale of coal, the consumption of coal and the transportation of coal in commerce, including the distribution of coal cars. He is also authorized to investigate the wages, working conditions, terms of employment and the living expenses of miners, etc. He shall make investigations, from time to time, as to the methods and processes for the storage of coal, and conduct such experiments and researches as he may find advisable to determine the most efficient means for such storage.

The information thus gathered by the commissioner shall be compiled and kept available for immediate reference and from time to time shall be published in such form as he deems proper. He is authorized to place at the disposal of any private or public board, commission, etc., engaged in the arbitration, conciliation or settlement of any labor dispute arising in any mine from which coal is shipped all data and information in the files of his office relating to the matter in controversy. He shall co-operate with the Interstate Commerce Commission in promoting the proper distribution and most efficient use of coal cars. He shall also investigate the desirability and practicability of prescribing statutory standards for various kinds and grades of coal and shall submit a report thereon to Congress before April 1, 1921, accompanied by such recommendations as he may deem proper. In this

report will also be included the desirability and practicability of a statutory zoning system. He is required on or before the first day in December of each year to submit a report to Congress, setting forth the work and activities of his office for the past year and a summary of the results of investigations conducted by him, together with such recommendations for further legislation relating to the mining, distribution, transportation or sale of coal as he may deem necessary. He may prosecute any investigation authorized by this Act, personally or by such examiners as he may designate in any part of the United States, and shall at all reasonable times have access to and the right to examine the mines, offices or other place of business of any operator or dealer, and shall have access to and the right to copy any books, records, papers, correspondence, or any entries therein, of any operator or dealer. Any operator who shall refuse to permit such inspection shall be guilty of a misdemeanor, and shall, on conviction, be punished by a fine of not more than \$1000 or by imprisonment for not more than six months, or by both. Operators are required to file with the commissioner in such form as he may prescribe annual and special reports or answers in writing to specific questions, furnishing to the commissioner such information as he may require as to the organization, practices, management, relation to other persons, costs, prices and profits of the operator or dealer. Such reports and answers shall be made under oath and a fine of \$1000 or imprisonment or both shall be imposed for any false statement concerning the above. The sum of \$50,000 is appropriated to carry out the Act.

S. 4090. Introduced by Mr. Calder, referred to the Committee on Interstate Commerce. (*Presidential Control of Fuel.*) The bill repeals the provisions of Section 5 of the Act to provide for the national security and defense by encouraging the production, conserving the supply and controlling the distribution of food and fuel, in so far as they apply to fuel, including fuel oil and natural gas. Section 2 of the bill amends Section 25 of the Act of August 10, 1917, which provides that when directed by the President, the Federal Trade Commission shall proceed to make full inquiry into the cost of producing coal and coke under reasonably efficient management at the various places of production.

S. 4087. Introduced by Mr. Frelinghuysen, referred to the Committee on Interstate Commerce. (*Amending Interstate Commerce Act.*) The bill amends Section 15 of the Interstate Commerce Act by inserting a new paragraph, which provides that 30 days after the passage of the amendment no carrier by railroad subject to this Act shall demand, collect, receive or enforce, for the carriage of coal, coke, briquettes or boulets, any individual or joint rate which during the period from

April 1 to August 31 in each year is greater or less than 85 per cent. of the schedule rate in effect therefor on the date of shipment, or which during the remainder of each year is greater or less than 115 per cent. of the schedule rate in effect therefor on the date of shipment. The Commission is empowered, when it finds that any individual or joint rate as so reduced or increased is or will be unjust or unreasonable or unjustly discriminatory or unduly preferential or prejudicial, to determine and prescribe what will be the just and reasonable individual or joint rate to be observed during the portion of each year, and they shall make an order that each carrier affected shall desist from demanding, collecting, receiving or enforcing a different rate than that so prescribed for the carriage in question. Whenever the Commission shall find that the percentages of difference in rates for the carriage of coal, coke, briquettes or boulets will cause the same to be made in such disproportionate quantities at any period of the year as to prevent the carriers affected from handling their traffic properly, using their equipment efficiently or receiving just and reasonable revenue from such coal, coke, briquettes or boulets, the Commission is authorized to determine what percentages of difference in rates for the carriage of such coal, etc., below and above the schedule rates will be just and proper and to make an order that each carrier shall desist from demanding, collecting, receiving or enforcing a different rate. The bill specifically states that nothing in this paragraph shall be construed to authorize any carrier to receive any charge which is greater or less than that shown in its schedule for switching and other incidental services performed in connection with the carriage of coal, coke, briquettes or boulets.

H. R. 12848. Introduced by Mr. Tilson, referred to the Committee on Interstate and Foreign Commerce. (*Federal Control.*) This bill is identical with the bill introduced in the Senate by Mr. Frelinghuysen—S. 4089.

H. R. 13230. Introduced by Mr. Robison of Kentucky, referred to the Committee on Interstate and Foreign Commerce. (*Freight Rates.*) The bill amends the Interstate Commerce Act by providing that from 30 days following the passage of the amendment no railroad shall demand, collect, receive or enforce for the carriage of coal, coke, briquettes or boulets any individual or joint rate which during the period from April 1 to August 31 in each year is greater or less than 85 per cent. of the schedule rate in effect therefor on date of shipment, or which during the remainder of each year, is greater or less than 115 per cent. of the schedule rate in effect thereon on date of shipment. If it shall appear that such a rate is discriminatory or unreasonable, then the Commission is authorized to prescribe what will be a just rate.

H. R. 13231. Introduced by Mr. Robison of Kentucky and referred to Committee on Interstate and Foreign Commerce. (*Federal Control.*) The bill repeals the Act of August 10, 1917, which gives the President power and authority to license the importation, storage, mining and distribution of coal, etc. Section 2 amends Section 1 of the Interstate Commerce Act by adding a new paragraph, which provides that no carrier by railroad subject to the Act shall confiscate or divert for its own use or for any other purpose, whether with intent to make proper compensation or not, any coal or coke of which it is in possession solely as a common carrier, and which the owner has not voluntarily sold or transferred to such railroad.

H. R. 13158. Introduced by Mr. Cooper, referred to the Committee on Interstate and Foreign Commerce. (*Amending Interstate Commerce Act.*) This bill is identical with S. 4087, which is reviewed in these columns.

Anti-Trust

H. R. 13138. Introduced by Mr. Platt, referred to the Committee on Banking and Currency. (*Amending Sherman Law.*) The bill amends Section 8 of the Sherman Anti-Trust Law by providing that nothing in the Act shall prohibit any private banker or any officer, director or employe of any bank or class A director of a Federal Reserve Bank, who shall first procure the consent of the Federal Reserve Board, which board is hereby authorized to grant, withhold or revoke such consent from being an officer, director or employe of not more than two other banks, banking associations or trust companies, whether organized under the laws of the United States or any State, if such other bank is not in substantial competition with such banker or member bank.

S. 4028. Introduced by Mr. Smoot, referred to the Committee on Interstate Commerce. (*Amending the Anti-Trust Law.*) The bill amends Section 10 of the Sherman Anti-Trust Law by adding the following paragraph, which provides "that none of the provisions of this section shall be construed to include or apply to any railroad or to any director, president, manager or other officer or agent thereof all of the shares of the capital stock of which, other than those used for qualifying its directors, or all of the property of which is owned by a person or corporation whose plant, shops, mills, factories or other properties such railroad is principally engaged in serving."

Federal Trade Commission

H. R. 13110. Introduced by Mr. Frear, referred to the Committee on Judiciary. (*Amending Federal Trade Commission Act.*) The bill amends the Act to create a Federal Trade Commission by providing that whenever it shall be alleged upon a properly filed complaint with the Federal Trade Commission that

any commodity entering into the use of trade is controlled in its production or price by a monopoly so that free competition has ceased to exist, the Commission may ascertain the facts and fix maximum wholesale prices that may be collected on the commodities produced by such monopoly. Such prices shall permit reasonable earnings to the monopoly based on the actual value of the necessary producing properties to be ascertained pursuant to methods and principles provided by law for its determination by the Interstate Commerce Commission when fixing railway freight rates. When fixing the values on profits, the Commission shall have authority to determine reasonable values on patents and inventions, etc. The findings of the Commission shall be conclusive. The prices so fixed by the Commission shall become effective 30 days after notice of its findings have been published. The Commission is to receive and examine all complaints of profiteering and unjust prices presented before it, or which may be instituted on its own motion. A fine of not less than \$100 or more than \$1000 per day is imposed for violation of the ruling of the Commission.

Revenue

H. R. 13074. Introduced by Mr. Green of Iowa, referred to the Committee on Ways and Means. (*Excise Tax.*) The bill provides that every corporation making a distribution during the year 1920 of its capital stock to its stockholders without receiving payment therefor shall pay a tax equivalent to 15 per cent. of the face value of the shares so issued.

H. J. Res. 315. Introduced by Mr. Little, referred to the Committee on Rules. (*War Profits.*) The bill provides that the Attorney-General is authorized to begin injunction proceedings against the Standard Oil Co. and its various affiliated or allied companies, the United States Steel Corporation and its various allied or associated steel, iron, coal, railroad and banking corporations, and similar corporations and companies, to restrain them from taking any steps, either by stock dividends or other devices, to distribute the surplus war profits accumulated in their treasuries during the past six years. Section 2 of the bill provides that the Ways and Means Committee of the House of Representatives be instructed to immediately draft and report a bill to provide for taxing all surplus war profits of these corporations and companies similarly situated, the revenue so derived from the tax to be used for the benefit of each soldier, sailor, marine or nurse who served in the United States military or naval forces during the European War of 1917 and 1918.

H. R. 13073. Introduced by Mr. Rogers, referred to the Committee on Interstate and Foreign Commerce. (*Honest Merchandise.*) The bill provides that every person who applies or causes to be applied any false trade

descriptions to any goods, wares, merchandise or things shall be guilty of a misdemeanor and shall be fined not to exceed \$1000 or sentenced to imprisonment for two years, or both, in the discretion of the court; and for each subsequent offense shall be fined not less than \$1000 or be sentenced to imprisonment for not less than one year, or both, in the discretion of the court. Every person who sells or exposes for or has in his possession for sale or any purpose of trade or manufacture any goods or things whatsoever to which any false trade description is applied shall be punished in the same manner. The same fine is imposed for the introduction in any State, Territory or from any foreign country, or shipment to any foreign country any article which is misbranded. The Act also applies to articles of merchandise intended for export to any foreign country only in the event that a false mark, trade-mark, label, brand, device or representation is used thereon or in connection therewith; but if the goods shall be sold or offered for sale for domestic use or consumption then this proviso shall not exempt the goods from the operation of any of the provisions of the Act. Section 5 defines misbranded or misrepresented as, first: An imitation of and offered for sale under the name of another article or with a brand so nearly like it such as will deceive the purchaser as to its origin or character. Second, if the package, as originally put up, shall be removed, in whole or in part, and other contents placed therein with intent to deceive. Third, if the package form and the contents are not plainly and correctly stated on the outside of the package or are stated in such manner to deceive the purchaser. Fourth, if there would be published in any magazine, newspaper, etc., any misleading statement which would deceive the purchaser. The Act also describes what is meant by "Trade Description," "Trade-marks," "Covering," etc. The Secretaries of Commerce, Treasury and Agriculture are authorized to make uniform rules and regulations for carrying out the provisions of the Act, including the collection and examination of specimens of articles of merchandise or trade, which are being transported from one State to another. The Department of Commerce, Bureau of Standards, is to make all examinations of all such specimens. Section 17 specifically states that the Act will not in any way repeal or amend the Food and Drug Act.

H. R. 12820. Introduced by Mr. Ackerman, referred to the Committee on Ways and Means. (*Tax on Merchandise.*) The bill repeals Title three of the Act of February 24, 1919, known as the Revenue Act, and provides that on and after July 1, 1920, there shall be levied, assessed, collected and paid in lieu of the taxes imposed by the above-mentioned bill, a tax of 25 cents on each \$100 or fractional part thereof, worth of sales, or turnover, of all articles of merchandise sold for cash or any consideration, being of or representing the

equal cash value. The tax is to be paid by the vendor at the end of each quarter of the calendar year. Failure to make return of the tax as provided herein shall be deemed a misdemeanor, and the Secretary of the Treasury is authorized to collect a sum equal to 50 per cent. additional of said tax, when it shall be determined, unless such failure was caused by sickness, death or other cause beyond the control of the vendor.

H. R. 12976. Introduced by Mr. Thompson, referred to the Committee on Ways and Means. (*Imposing a Tax Upon Advertisements.*) The bill provides that there shall be levied, assessed, collected and paid by the advertiser upon all advertisements in any book, magazine or newspaper having a circulation of 5000 or more, pamphlet or other publication entering the United States mails, a tax equivalent to 10 per cent. of the sum usually charged by the publishers of such book, magazine, newspaper, pamphlet, etc. Such tax shall not apply to nor be collected upon classified advertisements when the same is a bona fide advertisement of articles "lost" or articles "found," of "help wanted," of "position wanted." Section 2 provides that there shall be levied, assessed, collected and paid by the advertiser on all advertising matter other than that specified in Section 1 hereof; a tax equivalent to 15 per cent. of the sum usually charged for the production of such advertising matter. Section 3 provides that each person, corporation, partnership or association receiving any payments referred to in this Act shall collect the amount of the tax imposed herein from the person, corporation, partnership or association liable therefor, and shall make monthly returns under oath, in duplicate, and pay the taxes so collected to the Collector of Internal Revenue.

H. R. 12821. Introduced by Mr. Ackerman, referred to the Committee on Ways and Means. The bill provides that in order to meet the necessary funds for carrying out any legislation for awarding funds to the discharged soldiers that a tax be assessed, levied, collected and paid on each 100 matches of 1 cent, the tax to be paid by the person purchasing, procuring or obtaining the matches from the retail dealer. On and after the date this Act becomes effective it shall be unlawful for any person to sell, give or otherwise dispose of a carton, box or other container of matches in the original package unless a tax of 1 cent has been attached for each 100 matches shall have been collected and paid, and a fine of \$20 is imposed for violation.

S. J. Res. 157. Introduced by Mr. King, referred to the Committee on Finance. (*Computation War-Profits and Excess-Profits Taxes.*) The bill provides that war-profits credit and excess-profits credit prescribed in Sections 310, 311 and 312 of the Revenue Bill

shall for taxes to be imposed for the calendar year 1919, in lieu of the method prescribed in the Act, be ascertained by the Commissioner of Internal Revenue, who shall ascertain from the returns on file in his office for the corporation income tax of each taxable corporation for the calendar years 1911, 1912 and 1913, the average ratio of annual taxable income to the annual deductions or expenditures which have been deducted from the gross income of each taxable corporation to ascertain its taxable income in each of the years mentioned, which ratio shall be called the normal ratio of earnings to expenditures, which shall be applied to the ratio to the expenditures or deductions returned by such taxable corporation for the year 1919, and shall thereby compute and ascertain the war-profits credit and excess-profits credit which shall be deducted from the total taxable income or profits of such corporation for the calendar year 1919. The residue of such taxable income or profits shall be denominated war and excess profits, there shall be levied, collected and paid upon said war and excess profits for the calendar year 1919, a tax equal to 40 centum of such war and excess profits. Section 2 provides that in the case of any taxable corporation which did not make a return to the Commissioner of Internal Revenue for the pre-war period the Commissioner shall fix the normal ratio of earnings to expenditures for such corporation according to the fair average ratio of earnings to expenditures of other corporations conducting the same general business, in the same general markets, and having the same general annual volume of expenditures in said pre-war period, as the corporation for which such ratio is fixed. Section 3 of the bill provides that in case of pending controversies or disputes with respect to the settlement of the taxes imposed for the calendar year 1918 by Section 301 of the Revenue Bill, the Commissioner, with the consent of the Secretary of the Treasury, may agree with the corporation party to such dispute that the taxable war profits and excess profits shall be ascertained as herein provided, and that upon the amount so ascertained the war-profits and excess-profits tax for the year 1918 shall be computed at the rate of 65 per cent. in lieu of the rate prescribed in this Act.

S. 4119. Introduced by Mr. Frelinghuysen, referred to the Committee on Finance. (*Bond Issues.*) The bill provides that the Secretary of the Treasury is authorized to issue from time to time, as may be necessary to carry out the purposes of the Act, bonds of the United States to the amount of \$30,000,000,000. Such bonds to be payable fifty years from the date of issue and bear interest at the rate of 3½ per cent., payable semi-annually. The principal and interest shall be payable in gold coin of the United States of the present standard of value, and shall be exempt from all taxation, except estate or inheritance taxes. The bonds

shall be taxed, however, if at some future date the rate of taxation upon net incomes has reduced to the normal rate in force on the 1st day of January, 1914. The bonds authorized are issued solely for the purpose of retiring such bonds of the first, second, third and fourth Liberty loans, converted or unconverted, as shall be offered to the Secretary of the Treasury in exchange therefor. Section 2 of the bill creates in the Treasury a cumulative sinking fund for the retirement at maturity of the bonds authorized in this Act for the fiscal year beginning July 1, 1920, and for each fiscal year thereafter until the maturity of the bonds, there is appropriated out of the money in the Treasury not otherwise appropriated, an amount equal to the sum of seven thousand five hundred and sixty-four ten-thousandths of one per cent. of the aggregate amount of such bonds for the year beginning June 30, 1921, seven thousand eight hundred and ninety ten-thousandths of one per cent. of the aggregate amount of such bonds issued during such fiscal year, and so on up to 1925, when the rate shall be nine thousand three hundred and seventy-seven ten-thousandths of one per cent. of the aggregate amount of such bonds issued during the fiscal year. The Act is to take effect immediately.

Public Lands

S. 4113. Introduced by Mr. New, referred to Committee on Territories. (*Alaska*.) Provides for an Alaskan Development Board composed of three persons, to be appointed by the President by and with the advice of the Senate, to serve terms of seven years. Members of the board shall reside and maintain their principal and necessary branch offices within Territory of Alaska. Not more than two of the board shall be appointed from same political party; they shall not engage in other business, vocation or employment. The chairman of the board shall receive an annual salary of \$8500, and other members an annual salary of \$8000 each. The board shall be under the general supervision of Secretary of the Interior, who is authorized to provide general rules and regulations, and appeals of final decisions of the board will lie directly to the Secretary of the Interior. The board shall submit annual report to Congress through the Secretary of the Interior, advising Congress from time to time of existing conditions, recommending new laws and changes in existing laws. The board shall be vested with jurisdiction and control of all reserved and unreserved public lands and all matters or things now subject or which may be made subject to national ownership, care, disposition, control or regulation within territorial limits of Alaska, except with respect to rates, regulations and control of railroads, steamship lines and other common carriers, which shall remain subject to jurisdiction of Interstate Commerce Commission. The bill further provides that the board shall supersede all other departments or independent commis-

sions, bureaus and things subject to the provisions of this Act and now being maintained for the purposes set forth in this Act, and that such departments, commissions and bureaus shall cease and transfer to the board such experts, employees, property and equipment as are now employed and used by said departments, commissions, bureaus, etc., and appropriations made therefor may be expended by the board. The board is authorized to provide itself with furnished offices at some accessible point in Alaska, the maintenance of which shall be met by appropriations for that purpose, and all moneys received by the board from sales, leases, fees or any other source under its control shall be deposited in the Treasury of the United States and set aside as the Alaska fund, to be used for payment of salaries of the board, subordinate officers, employees and incidental expenses, the balance to remain subject to such future appropriation thereof as Congress may make for the development and betterment of the Territory of Alaska. Nothing in this Act to be construed as granting to any members of the board authority, control or jurisdiction over the political or other internal affairs of the organized Territory of Alaska.

Alaska

H. R. 12909. Introduced by Mr. Grigsby, referred to the Committees on the Territories. (*Improvement of Alaska Transportation System*.) The bill provides for the creation of the Alaska Territorial Shipping Board, to be composed of the Governor, the Treasurer and the Secretary of the Territory of Alaska, which board is authorized to require all carriers, who shall have transported cargo or passengers, to file verified reports in the office of such board, showing in detail the places where the cargo and passengers were received and delivered, the number of passengers, the quantity of cargo by tons, the rates or charges and the revenue received therefor, and such other facts as may be necessary to compile and maintain the Territory. Each vessel will be required to carry a license if it carries more than twenty net tons. The license shall be issued upon payment to the Collector of Customs at \$3 per ton per annum on the net tonnage, and no vessel shall be allowed to make entry until the license tax is paid. The failure of any carrier or other person to perform any other requirement imposed by this Act shall be punished by a fine of not more than \$10,000.

Oil

S. 3334. Introduced by Mr. Curtis, referred to the Committee on Foreign Relations. (*Oil Mining in Foreign Countries*.) The bill provides that no citizen or subject of any country which requires by law regulation, or otherwise any stipulation in any contract, lease, sale or other agreement, relating to mines or minerals, including petroleum, which prevents or

prohibits American citizens, because of their nationality, from being shareholders, or which limits the number of shares which may be held by American citizens, or places restrictions on American citizens holding any position in the company or on the board of directors or similar control body shall be permitted to hold, either directly or indirectly, any right, title or interest, in any mine or mineral deposit, including petroleum, in the United States, or any of its dependencies, so long as the restrictions before mentioned shall remain in force in any law or regulation or in any contract, lease or other agreement to which the government of the foreign country or any of its officials or representatives is a party. That no alien company which by its articles of incorporation prohibits American citizens, because of their nationality, from being shareholders, or which limits the number of shares which may be held by American citizens, or prohibits American citizens from holding any position on the board of directors or in the company shall be permitted to hold, either directly or indirectly, any right, title or interest in any mine or mineral deposit, including petroleum. Section 3 provides that if any of the things prohibited in the sections above referred to exist at any time beginning two years after the passage of this Act, the positions so held by aliens shall become vacant, and any and all acts performed by any such alien connected with such company shall be without legal force or effect, and the shares or interests so held contrary to this law shall be sold by the Attorney-General to American citizens under such conditions and regulations as the Attorney-General shall fix, but always within one year from the time such shares or interests come under the provisions of this Act, and the net proceeds of such sales in each case shall be paid to the alien citizen, subject or corporation concerned.

R. Res. 501. Introduced by Mr. Dyer, referred to the Committee on Judiciary. (*Retail Price of Gasoline*.) The resolution provides that because the retail price of gasoline has advanced twice in price within thirty days, and because recent reports indicate huge profits are being made by concerns engaged in this business, that the Attorney-General is authorized to make immediate inquiry into the operations and accounts of the leading concerns in the United States engaged in the industry of fuel oil, kerosene, gasoline and other petroleum products, and report to the House the causes of recent advances in the market price of these products. The Attorney-General is requested, in making such report, to take into consideration and to report the sources of oil supply for the United States, and the profits in that business, and what, if any, combinations in re-

straint of trade exists between those engaged in the business, and what, if any, effect it has upon the market price of the petroleum products mentioned.

Railroads

H. R. 12953. Introduced by Mr. Montague, referred to the Committee on Interstate and Foreign Commerce. (*Amending the Railroad Bill and the Act to Regulate Commerce*.) This bill amends the Railroad Bill, signed February 28, and the Act to regulate Congress approved February 4, 1887, be provided that the period after the railroad abandonment at the end of paragraph 18, Section 402, of the Railroad Bill be stricken out, and in lieu thereof the following be added: "Provided, That no company or corporation engaged in interstate commerce in the inland waterway or coastwise trade of the United States, and owned in whole or in part by any such carrier or by any stockholder thereof, shall abandon the operation of any of its ships, vessels, tugs or barges employed in such commerce unless and until there shall first have been obtained from the Interstate Commerce Commission a certificate that no public interest is or will be prejudiced by such abandonment, anything in the said Act of February 28, 1920, to the contrary notwithstanding."

Leasing Bill

S. 4013. Introduced by Mr. Ransdell, referred to the Committee on Public Lands. This bill amends the Leasing Act approved February 25, 1920, by amending it as follows: "That all of the provisions of the Act, so far as the same relate to oil and gas, are hereby made applicable to lands embraced in the Executive Order of withdrawal issued December 15, 1908."

Decimal System—Weights and Measures

H. R. 12850. Introduced by Mr. Welling, referred to the Committee on Coinage, Weights and Measures. (*Decimal System*.) The bill is similar to the bill reviewed last month introduced by Mr. King. It provides that the decimal divisions of the foot shall be the tenth or decimal inch, the hundredth or line, and the thousandth or point, of which ten points equal one line, ten lines one decimal inch, and ten decimal inches equal one foot. One hundred points equal one decimal inch and one thousand points equals one foot. The common fractions of the foot shall be the half, third, quarter and twelfth, of which the twelfth shall be denominated the common inch. It defines the weight of the United States silver dollar as one ounce, nine hundred line of silver. The nickel shall be one hundred grains of alloy, three parts copper and one part nickel. The gold of the United States shall be the pound, the eagle and the double eagle. The standard weight of the pound shall be two hundred and

ninety-four and eight-tenths grains of gold, nine hundred fine. The weight of the eagle shall be five hundred and eighty-nine and six-tenths grains of gold, nine hundred fine, and the weight of the double eagle shall be one thousand one hundred and seventy-nine and two-tenths grains of gold, nine hundred fine. The standard of value shall be the dollar.

Miscellaneous

H. R. 13132. Introduced by Mr. Lankford, referred to the Committee on Agriculture. (*Reducing High Cost of Living.*) The bill establishes in the Department of Agriculture a Bureau of Producer to Consumer Exchange. It is to be under the supervision and control of the Director of the Bureau, who shall be appointed by the President and receive a salary of \$12,000 per year. Among other things the Director is empowered to employ agents to whom producers of foodstuffs and other products may deliver their goods. The United States Government through these agents shall designate the time and place, where and when, the foodstuffs and other supplies will be accepted for transportation and marketing under the provisions of the Act, such time and place to be as convenient to the producers as reasonably possible. The agents are empowered to pay to the producers a reasonable value of the article, and he shall collect from the producer a reasonable charge for transportation and delivery. The agent shall accept for transportation and delivery only such amount and kind of products of garden, farm, mine and factory as have been ordered with a reasonable cash deposit to hold the United States harmless in case of non-acceptance. The Director of the Bureau is also empowered to employ a sufficient number of delivery agents, whose duty it shall be at the time of making delivery to collect a reasonable market value of the article delivered. The receiving and delivering agents provided in the Act may accept orders from producers for acceptance and transportation of products, as well as orders for the purchase and delivery of products to the consumer. Such orders received to be wired to the Director of the Bureau immediately. The Director is authorized to determine the price to be paid for products and the price to be collected at the time of delivery. Such prices to be sufficiently high as to make the production of foodstuffs and other products profitable to gardeners, farmers, etc. One hundred million dollars is appropriated to carry out the purposes of the Act.

H. R. 12994. Introduced by Mr. Gillett, referred to the Committee on Appropriations. (*National Legislation.*) The bill provides for the creation of a commission to co-operate with other nations to educate all mankind. Its initial program includes the plan for the re-

moval of illiteracy, instruction in the applications of science and mechanics to the work of the world and the physical welfare of mankind or world health, international or world ethics, promotive of just and humane government the world over. The commission is to consist of the United States Commissioner of Education and four other persons, appointed by the President, to confer with the proper authorities of all nations to secure their co-operation in the same, to induce the League of Nations when and if formed to make world education a feature in world policy, to begin at once in the most practicable way. The salaries of the commission and the expenses are to be arranged by the President, and the commission shall present an annual report to Congress and to all co-operating Governments. It provides the sum of \$10,000,000 to carry out its provisions.

SHIPPING BOARD ANALYZES

CAUSES OF FUEL OIL SHORTAGE

In connection with the acceptance of bids for fuel oil by the United States Shipping Board, it is understood the Board considers the difficulty experienced in obtaining bids for oil is based on opinions of heads of principal American oil companies that the situation is due to natural causes, as follows:

Failure in production resulting from restrictions imposed by the Mexican Government on drilling new wells and to advent of salt water in producing wells.

Over-commitments by supplies on present contracts, coupled with increased demands in the United States for domestic and industrial purposes due to the coal strike, as a result of which many factories changed from the use of coal to fuel oil.

Resulting depletion of stock reserves in the United States and Mexico.

It is said the Board believes that within two or three months there will be large gains in production. The policy has been adopted to obtain supplies on a six months' basis, and the following contracts have been let for the delivery of fuel oil on the Atlantic and Gulf coasts for the six months beginning April 4:

Mexican Petroleum Corporation at Galveston 211,000 barrels per month, at \$1.34 per barrel; at Port Arthur, 110,000 barrels, at \$1.56 per barrel; at New Orleans, 512,000 barrels, at \$1.40 per barrel; at Jacksonville, 167,000 barrels, at \$1.50 per barrel.

Atlantic Gulf Oil Corporation, 3,600,000 barrels of light Mexican crude for six months, beginning April 15, at \$1 per barrel, plus export charges at Tecomete, Mexico.

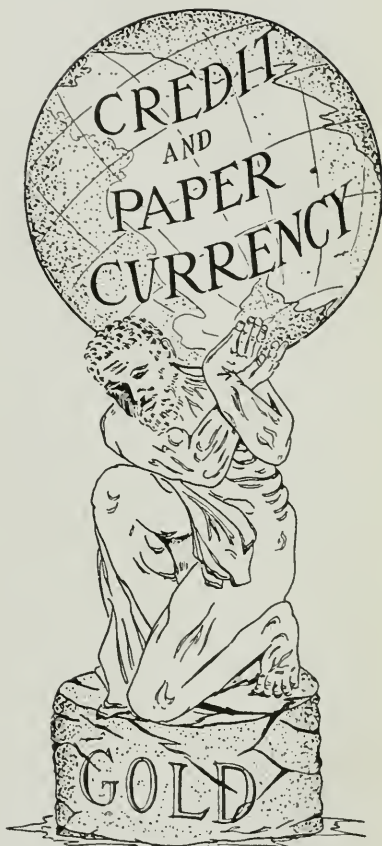
Standard Oil Co., New Jersey, two contracts. First, at New York, Baltimore and Norfolk, in equal monthly quantities, at \$2.07 per barrel, which includes Government transportation at 80 cents per barrel. Second, covering topping, storage and redelivery at New York of 2,800,000 barrels at \$1.66 per barrel, including Government transportation at 80 cents per barrel.

of gold coin, especially as there is no law in the United States to prohibit same, and the result of which practice would be injurious to our currency system.

The enactment of this law under present conditions, where the gold consumed in the trades is in excess of that produced from the mines, will not only be without cost to the Government, but will create a balance in favor of it. The premium to be paid to the gold producer is not a subsidy, because the Government has been and is now subsidizing the consumers of gold in manufactures and the arts. The wholesale index price number of all commodities in 1919 was 212, as compared to 100 in 1914, which shows that had gold increased in price in conformance with all other commodities in the United States, the gold producer would have received for his 58.5 million dollar production in 1919, \$65,500,000, or 112 per cent. more than the monetary price which he did receive. The excise to be imposed upon manufacturers of gold merely lessens the amount of this subsidy. The \$10 excise is equivalent to an increase of 50 per cent. in the price of the metal contained in manufactured articles, while all commodity prices have risen 112 per cent.; consequently, the excise offsets only 45 per cent. of the subsidy now in force and which, because of the fact that the Government sells gold to the trades at the original monetary price, must be and is being met by the producer. The bill merely creates the governmental machinery by which the consumer of gold in the trades may pay more nearly the cost of production for this raw material.

The gold production of the United States declined from \$101,000,000 in 1915 to \$58,000,000 in 1919, a loss of 42 per cent. in the last four years. It is evident that no less than 42 per cent. of the capital invested in the gold-mining industry has already been rendered unremunerative by the forced closing down of properties. These properties suffer great deterioration by the forced closing down, and, therefore, other losses are necessarily sustained and increased costs involved in reopening them. It is evident that the longer this condition is allowed to exist, the greater will be the reduction in the gold output for this year, which means a heavier drain upon the monetary gold reserve, because manufacturers are consuming as much or even more than they did last year. The longer this situation is allowed to continue, the more difficult and expensive will it be to reclaim gold properties and regain the normal gold production of the United States.

In view of the need for protecting the monetary gold reserve from further excessive depletion by consumption in manufactures and the arts, and the present emergency with which the gold-mining industry is confronted, it is expected that the consideration of this bill will be expedited.



Paper currency is bearing heavily on our credit, Atlas. Will the base crack?

"And the safest method will be to cling more tenaciously to the gold we now possess and to encourage gold mining in every legitimate way."—Richard Houdley Tindley.

Both the cartoon and this statement appeared in the Financial World, March 22, 1920.

Congressman Madden, in discussing the question of loans to Europe, said:

"The country was never in such a deplorable condition as now as regards its finances. It is necessary that every person in responsible place should devote himself whole-heartedly to the work of rehabilitating and stabilizing the country's finances. With a deficit of \$3,000,000,000 facing us and estimated expenses for the coming fiscal year of \$6,000,000 and revenues not to exceed \$5,300,000,000, it is impossible to enter upon new obligations, to say nothing of drawing upon our treasury funds to meet the needs of other people. Our first obligation is to our own people, and they should receive first consideration. Living costs are beyond the reach of the ordinary person. Demands are being made on every hand for increased compensation to enable people to meet the excessive revenue costs. These demands are neither unjust nor unreasonable under the circumstances, but everybody knows that if granted it will but add to the living cost. The people throughout the country are demanding relief from the excessive burdens of taxation, and those in the administrative branches of the Government are insisting upon extravagant expenditures. Both cannot be granted. The duty of Congress is to reduce the expenses of the Government without doing injustice to any necessary activity and until the people of the country learn economy of expenditure, extravagant waste is likely to go on, but this waste should not include contributions from the Public Treasury to people in other nations for whose welfare we are in no wise responsible."

Lawrence Fremont Sherman, in a recent issue of *Law and Labor*, says:

"During the season o 1919 the Big League, composed of the All-American teams, 'Organized Labor' and 'Industry,' engaged in more contests than ever before in any one year in the entire history of our country.

"'Inefficiency,' 'Short Hours' and 'Agitation,' the star battery and first baseman of organized labor, succeeded in retiring 'Efficiency,' 'Harmony' and 'Production' times without number.

"It is true there were over 3700 'strikes,' but there were over 200,000,000 'days out' at bases, and the gate receipts lost, which would have been divided among the members of both teams, amounted to over \$2,000,000,000.

"Near the end of the season 'Organized Labor' lost its head completely and carried the game indoors (to the steel mills), and later, in defiance of all rules of the game and orders of the Umpire, insisted upon 'play' under ground (in the coal mines). The 'days out' in the last week of play in this single game were over 30,000,000, representing a loss to wage-earners alone of over \$120,000,000.

"All society, the mainstay of the game, then became thoroughly disgusted, refused to leave the grandstand and follow the play.

"It says it has sat idly by long enough and 'paid the freight.' It now insists that the recalcitrant players be curbed, the rules of the game obeyed and the decisions of the Umpire enforced.

"Society is now 'at the bat,' and a committee of 'wise men' is drafting an entirely new code of rules, and the hope of America in 1920 lies in 'Efficiency,' 'Harmony' and 'Production.'

"THINK IT OVER. How much did the season's 'play' cost you?"

Senator Frelinghuysen, in introducing his bills relating to the coal industry, said:

"We have been doing nothing in regard to the coal industry. We pay attention to all other industries, through the Federal Trade Commission, the Interior Department, the Department of Commerce and the Shipping Board, and yet the Government has absolutely no bureau charged with the duty of handling the coal situation. Every coal operator in the country is complaining of the shortage of cars; the Miners' Union is complaining that during the summer months they are idle; that they do not have the opportunity of working six days a week, and, therefore, they demand a shorter week and shorter hours, believing that would relieve the situation. If the mines of the country are operated with the present number of miners, I think about 500,000, 230 days a year, there can be procured in this country 800,000,000 tons of coal. The needs of the country are approximately 500,000,000 tons; Europe will need from 100,000,000 to 150,000,000 tons.

"It is believed that legislation requiring lower freight rates on coal during the spring and summer months would tend to encourage consumers to develop storage accommodations, to accept deliveries of coal in advance of their seasonal needs, and thus to keep the mines operating more constantly throughout the year. The legislation proposed could be expected to bring about the stabilization of the price of coal. It would obviate very largely the pressing necessity for more coal cars; would remedy the present inadequacy of terminal facilities; promote regularity of employment in the mines and thus settle the outstanding grievances of the miners; it would cause no confusion for either carriers or shippers; it would not affect the revenue of the carriers and transportation of coal in the spring and summer would not embarrass the railroads in handling other seasonal movements—for example, crops.

"Briefly stating the effect of this measure, it means that from the 1st of April to the 1st of September consumers of bituminous and anthracite coal used by the industries of the country will have the opportunity of having 15 per cent. reduction in their freight rates and a penalty of 15 per cent. advance from the 1st of September for the following six months. It means that it will induce the purchase of coal in the summer and will release 25,000 coal cars

which are idle during the period, at a time when the railroads are not congested, and at a time when the coal may be moved more efficiently and effectively.

"It has been said by one who has studied the situation that it will save \$1,000,000,000 a year to the country in the wastage that now exists. This legislation also provides for an agency to obtain complete information about the coal industry and to provide some method to prevent a recurrence of practices which in the past and at the present time cause serious inconvenience to the public."

Congressman Nolan, in discussing the appropriation for the Department of Labor, with reference to the War Labor Board, said:

"From November 11, 1918, up to February 1 of 1920 the Conciliation Board of the Department of Labor handled 1250 cases.

"I have actual knowledge of the fact that this branch of the service has worked out an agreement which makes for continued peace in the oil industry of the entire State of California.

"I know also that this division has worked out a plan which made for uninterrupted production in the copper industry in the States of Arizona, Nevada and New Mexico.

"A similar plan has been worked out by this bureau between the employers and the employees of the five great packing companies of Chicago.

"Taking the entire record of this division of the thousands of cases they have handled, the millions of men who have become involved, I contend that this House ought to encourage the work of that division and ought to give it what it has asked for."

Congressman Mann, in discussing the appropriation for the continuance of the Board of Conciliation in the Labor Department, said:

"Objection is made to this appropriation because the conciliators are not always of the right character. I have seen members of Congress elected by a constituency, and doubted whether they were of value to the country. I have seen many Government employees who were not just the thing that I would select if I had the selection, but, after all, in this country of ours we have either got to come to one of two things—we are either going to try to bring harmony in labor disputes by conciliation between employer and employee, or perhaps some day we shall require compulsory arbitration. For myself, I never have believed in compulsory arbitration as being beneficial either to capital or to labor. I think that it is wise for the Government to seek through a third person to bring together those who are disputing, labor on the one side and the employer on the other, and see if they will not agree."

Frank A. Vanderlip, in an address before the Electrical League at the Hotel McAlpin, New York, on March 18, said:

"The time has passed when America was in a position to lend its credit to Europe because of the wastage of credit which might have been devoted to assisting the European nations. He also stated that a sound basis for American prosperity would only exist in the presence of an ample supply of capital, an efficient labor supply, and recognition of the fundamental economic laws. While things on the surface appear to be running smoothly, the supply of banking credit has been seriously depleted and funds for investment are no longer available. The taxes which are now enforced have dried up the usual source of capital; that is, large incomes, while the class of investor who bought Liberty Loans is not accessible because the advance in price without commensurate increase in compensation has destroyed the possibility of saving.

He urged the encouragement of a national policy of thrift which would provide for a division of spending between consumption and production of goods. He stated that labor is only about 60 per cent. efficient now, and was being led by demagogues who adhered to fallacious economic principles, losing sight completely of the difference between the relation of the amount of wages and the amount of work. The high cost of living, he said, could be traced directly to the inflation of bank credits and currency."

In an editorial in the *Engineering and Mining Journal* of February 28, the editor has some interesting things to say about the gold standard. We quote from the above-mentioned issue:

"The Banker's Dream.

"He is living on the interest of his debts.—Ancient Joke.

"The study and handling of bonds, notes, credit, exchange, acceptances, discounts and rediscounts leads to a strange type of madness. From the type of madness where a mass of paper money is supposed to be on a gold standard because secured by a 40 per cent. 'gold reserve' in the vaults in Washington, it is natural to progress to the complete madness induced by long exposure to paper currency of believing the gold altogether unnecessary. A banker speaking the other evening to the New York Section of the American Institute of Mining and Metallurgical Engineers declared his belief that the paper was the reality and the gold a superstition. He proposed, as an international remedy, to fund together all the national debts in the form of an international bond issue, and to issue paper currency secured by these bonds. 'Then,' he said, 'we should have

plenty of money,' on account of the immense total of the bond issue, and hence of the security.

"The idea sounds good to us—just before the wife says, 'Wake up—you're dreaming.' Get up and go to work; and first fix the furnace, and shovel the snow off the sidewalk before breakfast! Oh, boy! What a grand plan! The more we owe, the more money we have. If we haven't enough, all we have to do is to increase our debts and issue more money on them as security.

"The troublesome gold question we get rid of by absolutely refusing to recognize it; gold shall be outlawed, and on our pyramided debts we shall rise to heights of affluence and speculative joy yet unexplored. What a wonderful banker's dream! What unlimited rake-offs! It is possible—is it not—nay, probable—that there would be room for more bankers? If so, we should like to apply. Possibly we could all be bankers.

"Wake up, Mr. Banker, you're dreaming! It snowed a foot last night, and the wind is blowing like —! Get up and go to work."

The **Providence (R. I.) Journal** published an interesting editorial, from which we quote as follows:

"There is no more to be divided up among the people of the earth than the people of the earth produce. If we want more we must produce more, and if we produce less we must be satisfied with less.

"These are such simple laws that any argument as to their truth would seem impossible, and yet we are confronted daily with new theories which completely ignore them—theories based on the idea that the world can live without work and that it is possible for everyone to get something for nothing. There is a growing tendency to accept these theories and an increasing number of people have been endeavoring to put them into practice.

"Human ingenuity can no more oppose the law of supply and demand than it can change the natural law that the sun rises in the east and sets in the west.

"A voluntary movement on the part of everyone for economy and increased production would be an infallible remedy, but our knowledge of human nature would hardly lead us to expect that. The lesson will have to be taught by old Mother Nature. Her laws are ruthless for those who break them, but they must be served, and through hunger and privation she will once more teach us that industry and thrift are virtues, laziness and waste are sins, and that the world must work or die."

The **Christian Science Monitor** in its issue of March 1 commented as follows upon the efforts of the American Mining Congress in behalf of gold producers:

"Continuous and increasing exports of gold from the United States are causing some con-

cern. A United States Treasury statement gives total gold holdings on February 1 as being \$2,762,905,481, a decrease of \$24,808,825 from January 1 last. This is the seventh consecutive month to show a decrease. The stock of gold in the United States underwent a loss in 1919, by excess of exports over imports, of \$202,796,000. Gold holdings are now at the lowest point since December, 1916, when they amounted to \$2,741,669,491. On January 1, 1919, they stood at \$3,080,510,000.

"Although these figures in themselves may not mean much to the layman, the gradual loss of gold is of great interest to every citizen of the United States. Inasmuch as gold is the foundation of the United States monetary and credit structure, it is seen that, although this country has about one-third of the monetary gold of the world, and is thus well situated as compared with other nations, the ceaseless drain will, sooner or later, have serious consequences unless remedial measures shall be taken. These exportations are occurring at a time when there is unprecedented demand for gold on the part of American manufacturers, and when, unfortunately, there is a sharp falling off in production. The production of gold is declining rapidly because gold mining has become unprofitable. Owing to the inflation of the currency, the purchasing value of an ounce of gold is less than half what it was in 1913. Under the status, an ounce of gold cannot bring more than \$20.67. This has been the price at which gold has sold throughout the period of rising prices of everything else, and now gold mine operators say that gold can no longer be profitably produced at that figure.

"Various remedial measures have been proposed, but thus far none has been adopted by the Government. The American Mining Congress, at its meeting last fall in St. Louis, went on record as being opposed to any change in the gold standard and unit of value of monetary transactions, but proposed that a tax of 50 cents a pennyweight be imposed on fine gold contained in all articles sold on and after May 1 next. It was proposed that, from the funds thus to be created, the producer of new gold should be paid \$10 an ounce as a premium to compensate him for the increased cost of production. It is understood that a bill covering these points is soon to be introduced in Congress. Because of the heavy exportations, it has been intimated that the Government might be requested to restore the licensing system which ceased last June. But this, at best, would afford only temporary relief. As in the case of other commodities, what the world seems most to need is greater production. Deflation of the currency and lower commodity prices will eventually restore gold to its rightful position, but there is no telling when these conditions will be realized. Meanwhile, everything possible should be done to encourage production.

Congressman Kendall of Pennsylvania in a speech urged the repeal of fuel powers conferred on the President by the Lever Act. He said that the Act was never intended to continue after the cessation of hostilities. The prices on coal at the mines as fixed by Dr. Garfield are unjust and unfair. Coal operators have never been able to understand upon what legal or just basis Dr. Garfield fixed these highly discriminatory prices, and they deserve the condemnation of all fair-minded people, who are demanding their cancellation.

Mr. Kendall said that Dr. Garfield has deliberately reached into the pockets of the coal operators and took ten cents for every ton of coal produced and put it into the pockets of the railroads, the steel trusts, the oil refiners, the powder trusts and other large corporations. Coal operators are patriotic, and would submit to all Government orders, and, of course, the railroads and other large corporations extended their heartfelt thanks to Dr. Garfield for the munificent gift handed them in reducing the price of coal ten cents per ton without even a request by them for such reduction.

The bituminous operators were recently further "sandbagged" by Dr. Garfield when he came to Washington to settle the coal strike by granting an increase in wages to all bituminous miners of 14 per cent., equivalent to the cost of production of 28 cents per ton.

This time Dr. Garfield injected his hand into the operators' pockets, taking 28 cents for every ton of coal mined, turning this sum over to the railroads, steel trusts, powder trusts and other large institutions, none of which had made any reduction in the price of their products, but had advanced their prices from 75 to 85 per cent. This unwarranted price-fixing is oppression, and ultimately means confiscation of property. The report of the Coal Commission recommending an additional advance of 11 per cent. in wages to miners would add another 22 cents per ton to the production of bituminous coal. The diversion of coal since the signing of the armistice is most pernicious, illegal, unwarranted and discriminatory usurpation of power. Authority to control distribution was given the President only when it was necessary for the efficient prosecution of the war. No such necessity now exists, and there should be no diversion of coal and no further interference with legitimate business by the Government.

Congressman Nelson of Wisconsin, in a speech in the House March 19, said:

"America must economize in her coal resources. The coal shortage, by reason of strikes and collapse of railway transportation in the last two years during peak seasons, has emphasized the need of utilizing all possible water-power and waterways. We must learn how to hitch up America's coal and water-power. Railroad coal tonnage should be reduced by water routes."

He urged the development of an interna-

tional water route from the Great Lakes through the St. Lawrence River to the sea jointly with Canada to accommodate ocean-going vessels, which he said was the key to the solution of the fuel and power crisis of the Eastern seaboard.

DIVERSION OF COAL ORDERED

STOPPED AS OF APRIL FIRST

Walker D. Hines, Director-General of Railroads, on March 24 issued the following order:

"I, Walker D. Hines, Director-General of Railroads, acting, with respect to control of the distribution of coal, under authority delegated to me by certain orders of the United States Fuel Administrator, dated October 31, 1919, and December 8, 1919, and by certain Executive Orders of the President of the United States, dated February 28, 1920; March 5, 1920, and March 19, 1920, hereby order and direct as follows:

"That all rules, regulations, orders or directions issued by me or under authorization from me under and by virtue of the aforesaid delegation of authority to me shall be and until further notice shall remain suspended from and after 12.01 A. M. April 1, 1920, and especially a certain order made by me on March 5, 1920, establishing a certain preference or priority list and designating as my representatives certain Regional Coal Committees with power, within the limits and for the purposes therein specified, to make diversions of coal in the possession of railroads operating in the United States as common carriers."

Pursuant to the above order of the Director-General, H. B. Spencer, as chairman of the Central Coal Committee, instructed all Regional and District Coal Committees, through which the control of the Director-General over the distribution of coal has been exercised, to cease functioning as the Director-General's representative at 12.01 A. M. April 1, 1920, and to give notice to all parties concerned that on and after 12.01 A. M. April 1 any and all orders issued by the committees will cease to have force or effect. The activities of these committees, which since March 5 have been charged with the duty of protecting the emergency fuel requirements of railroads, public utilities and other consumers in the first five classes of the Fuel Administrator's preference list, will be confined to carrying out to conclusion settlements for coal diverted prior to April 1. The committees were advised that during the period remaining in which the Director-General would exercise control over the distribution of coal it was imperative that diversions should be held at the absolute minimum necessary to meet current requirements of consumers in the first five classes, and they were instructed to exercise the greatest possible vigilance in seeing to it that no railroad, public utility or other consumer was permitted to build up a reserve supply of coal through diversions.



Under this heading THE MINING CONGRESS JOURNAL will hereafter carry a concise review of various orders, opinions and reports affecting freight rates throughout the country issued by the Interstate Commerce Commission and the Railroad Administration or any organization that may be made by law to succeed in any way to the functions of these two departments. The purpose is to get before our members the principal government mandates which affect our commodities, with a view to eliciting inquiries. It is not practicable to include much detail, but we are so equipped that we can give, upon inquiry, a full and complete analysis of any of the traffic problems which are brought to our attention. We hope that this chapter will be of interest and that you will advise us of your problems in order that we may give to each one the personal and complete attention which it cannot have in a review of this character.

DECISIONS OF THE INTER- STATE COMMERCE COMMISSION

Coal.—In a case brought by Franklin C. Cornell of Ithaca, N. Y., the Commission finds that the rates on anthracite coal, in carloads, from Coxton, Pa., to East Ithaca, N. Y., have been unduly prejudicial to the extent that they exceeded the rates contemporaneously in effect to Ithaca, N. Y. Reparation is awarded.

The complaint of the New Jersey Power & Light Co. is settled by a finding that a rate of \$3.20 per long ton on barley coal, in carloads, from Scranton, Pa., to Dover, N. J., was unreasonable to the extent that it exceeded a rate of \$2.40 per long ton which was subsequently established. Reparation is awarded.

In the case of P. Koenig Coal Co. the Commission finds the rates on anthracite coal, in

carloads, from Coxton, Pa., to Detroit, Mich., to have been unreasonable and awards reparation.

Petroleum.—In a case brought by the Kansas City Refining Co. the Commission finds that rates on refined and fuel oil to Chicago from Kansas City are unreasonable and unduly prejudicial to the extent that the rate on fuel oil from Kansas City to Chicago exceeds a rate at least 5 cents lower than the rate contemporaneously maintained on refined oil between the same points, and to the extent that rates on fuel oil, local or proportional, exceed rates at least 3 cents lower than rates contemporaneously maintained on the same commodity from the midcontinent fields to Chicago.

The complaints of the Akin Gasoline Co. have been decided, the finding in one being that rates on liquefied petroleum gas in tank-carloads from Electra, Tex., to North Baton Rouge, La., have been unreasonable to the extent that they exceeded those contemporaneously applicable from Wichita Falls, Tex., to the same destination. Reparation is awarded. In the second case rates on liquefied petroleum gas in tank-carloads from Dewey, Glenpool and other points in Oklahoma to North Baton Rouge, La., are found to be unreasonable, and reparation is awarded.

A finding that rates on petroleum and its products, in carloads, from the midcontinent oil fields in Kansas and Oklahoma to Eau Claire, Chippewa Falls and Menomonie, Wis., are not shown to be unreasonable or unduly prejudicial is made in a case brought by the Winona Oil Co., and the complaint is dismissed.

A decision in a complaint brought by the Atwood Refining Co. finds that a rate of 32.5 cents per 100 pounds charged on crude petroleum, in tank cars, from Burkburnett, Tex., to Oklahoma City, Okla., in September and October, 1918, was unreasonable to the extent that it exceeded 22.5 cents. Reparation is awarded.

Reparation is awarded for demurrage charges unlawfully collected at Chester, Pa., on seven tank cars of gasoline from Sistersville, W. Va., to Marcus Hook, Pa., in a case brought by the Texas Company et al.

GENERAL ANNOUNCEMENTS

Hearing as to Methods which Should Be Employed in Working Out the Guaranteed Return to the Carriers Provided by Section 422 of the Transportation Act, 1920.—On March 22 the Interstate Commerce Commission began a three-day hearing for the purpose of determining what valuation should be used in working out the 5½ per cent. guarantee which the carriers are assured of under Section 422 of the Transportation Act, 1920. Arguments were also heard as to how the country should be grouped for the purposes of this section. The hearing was more largely attended than any previous one before the Commission, and a large number of arguments were made, which can be summed up about as follows: The railway executives contend that, pending a final valuation of carriers, which, in the nature of things, cannot be completed for two or three years at best, the Commission should take the book value of the property plus such depreciation as the Commission can readily work out. It was estimated by some that this value should be as high as \$20,000,000,000. The railway security-holders took a similar position, contending that the book value is the basis upon which the Commission should work. Both of these arguments, however, were somewhat modified in the closing days of the hearing, protests from State Commissions, shippers' organizations and individual shippers being quite general. All of those who represented either the shippers or the public contended that the book value as it stands today is full of inaccuracies and is not a fair basis to consider in assessing additional freight rates. It was repeatedly stated that this value would, in the absence of definite knowledge, probably have to be used, but that many amounts known to the Commission from frequent investigations to be excessive should be subtracted and the final value used based upon such corrected results. The grouping feature of the matter received only slight attention, it being the wish of practically all that the three grand divisions existing today—Official, Western and Southern Classification territories—be left as they are. The railroads in the southwestern part of the country contended for a separate grouping by themselves, but there were practically no other requests for any other changes. The Commission has taken this whole matter under advisement and a decision should be forthcoming in the near future. Meanwhile, and up to September 1, such carriers as accepted prior to March 15 will receive the standard return which they got during Federal control. All but about 40 of the Class 1 roads in the United States have accepted this guarantee.

Coal Cars.—The Commission has exercised its car-service powers under the new Act by recommending that until experience and care-

ful study demonstrate that other rules will be more effective and beneficial, and especially during the remainder of the early spring, the uniform rules as to the handling of coal cars in force during Federal control be continued by the various carriers. The Car Service Commission of the American Railroad Association is making a drive to increase the production of bituminous coal to 11,000,000 tons weekly by improving the car supply. A telegram has been sent to all principal railroads calling attention to conditions following the strike, and asking for continued and concerted action by all concerned to equal the production of September and October just preceding the strike. Destination lines are directed to return coal cars to the mines promptly, and the attention to this necessity by the Western lines is particularly emphasized. Prompt unloading by consignees is also requested. The Car Service Commission expects that the volume of coal which will move to Lake Erie ports this year and the volume of ore which will move from such ports will exceed all previous records, and instructions have been issued providing for the preferred home movement of cars serving the Lake ports and confining the use of hopper or self-clearing cars of these lines to the Lake coal and ore service to the extent necessary.

Labor.—Section 304 of the Transportation Act, 1920, provides for the creation of a Railroad Labor Board, to be composed of nine members, three of which constitute the labor group, three the management group representing the carriers, and three to be appointed by the President and confirmed by the Senate; from not less than six nominees whose nominations shall be made and offered by such employees, and not less than six nominees who shall be named and offered by the carriers in such manner as the Commission shall by regulation prescribe. These nominations are to be made within 30 days after the passage of the Act. For the purpose of making nominations as members of the labor group the Commission divided the organizations of employees into three main groups, and provided that the railway executives could make their nominations through the Association of Railway Executives, these nominations, as made, to be certified to the President. On March 15 a hearing was had for the purpose of determining what the term "subordinate official" in the Act means, and extensive arguments were made by various associations which claimed that they had no representation under the grouping provided by the Commission. Accordingly, on March 23 the Commission issued supplemental regulations establishing a fourth group, which includes practically all of the various associations which complained that they did not have proper representation under the original grouping.

Personnel.—In pursuance of its policy of rotating the office of chairman, the Commission

has elected its senior member, Mr. Edgar E. Clark, to be its chairman for a term commencing March 17, 1920, and expiring June 30, 1921. Mr. Wilbur LaRoe, Jr., has been named Chief Examiner, vice Mr. Henry Thurtell, resigned, and Mr. Robert E. Quirk has been named Assistant Chief Examiner. Mr. W. V. Hardie of Oklahoma, formerly with the Railroad Administration, has been appointed Director of Traffic of the Interstate Commerce Commission.

Agent.—The Transportation Act, 1920, requires that the President designate an agent against whom actions arising out of Federal control can be brought. Accordingly, on March 11 the President issued a proclamation designating Walker D. Hines, Director-General of Railroads, as agent. The Commission has issued a general order making Walker D. Hines, Director-General of Railroads, as Agent, a party to all proceedings now pending in which Federal control is involved. Complaints brought in the future which involve Federal control should name all carriers concerned, as well as Walker D. Hines, Director-General of Railroads, as Agent. If Federal control is not involved, complaints should name merely the carriers concerned.

Depreciation.—The Commission has issued a general notice to all carriers concerned advising that until the Commission shall otherwise order the carriers can continue to observe requirements respecting the accounting for depreciation which have been in effect in the past. Under the new Act the Commission is given authority to prescribe classes of property for which depreciation charges may properly be included under operating expenses and the percentages of depreciation which shall be charged with respect to each of such classes of property.

Reduced Rates.—The new law provides that no reductions shall be made in rates without prior approval of the Commission. Accordingly, the Commission has sent to the carriers a form which is to be used in making applications for reductions, and many such applications have already been filed. When the Commission approves any of these applications it issues what is known as a Reduced Rate Order. This jurisdiction over reductions in rates is also extended by the Act to intrastate rates, and notice has been issued to all carriers that the Interstate Commerce Commission will consider applications from a State Commission for a reduction ordered by such State Commission in the event that the carrier itself refuses to make proper application.

Credit.—A hearing has been assigned before the Commission at Washington on April 20 upon the question as to what rules and regulations the Commission should provide in order to comply with Section 405 of the Transportation Act, 1920, which requires that no carrier after July 1 shall extend credit except under

such rules and regulations as the Commission may prescribe; provided, however, that the United States Government and Governments of the various States are not included in this inhibition.

THE INTERSTATE COMMERCE COMMISSION has elected Commissioner Clark for its chairman for a term beginning March 17 of this year and ending June 30 of next year. Commissioner Woolley was first elected and declined, and Commissioner Eastman took similar action. This was arranged in order that the new Commission, with its increased duties, might have its senior member as chairman.

VALUATION.—The Supreme Court on March 8 handed down a decision in the Kansas City Southern case, wherein it instructed the Commission to hear evidence and estimate the present cost of condemnation and damages or of the purchase of common carrier lands. This means the taking of a lot of testimony which may never be used and which will delay the valuation to quite an extent.

NEW COMPLAINTS

Docket No. 11262—Phelps Dodge Corporation v. Arizona Eastern et al.

Filed February 24 by Borders, Walter & Burchmore, attorneys, against unjust and unreasonable rates on coal tar from Haydon to Morenci, Ariz.

Asks for reparation.

Docket No. 11127—Sub. No. 3—C. A. Taggart et al., La Grange, Ill., v. Indiana Harbor Belt et al.

Filed March 1 by J. D. Gray, attorney, Chicago, against unjust, unreasonable and unjustly discriminatory rates on coal to La Grange by reason of addition of 25 per cent. increase to each factor of the rate instead of to the rate as a whole.

Asks cease and desist order, establishment of just and reasonable through rates on anthracite and bituminous coal and for a general reconstruction of the switching district of Chicago, so that it may include La Grange, Oak Park, Lombard, West Chicago, Glenn Ellyn and Wheaton, Ill.

Docket No. 11264—National Fireproofing Co., Pittsburgh, Pa., v. Pennsylvania et al.

Filed February 25 by Gallagher, Kohlsaat & Rinaker, attorneys, Chicago.

Asks for establishment of reasonable joint through rates for the transportation of coal from Aultman and Haydenville, O., to Perth Amboy, N. J., and for reparation.

Docket No. 11260—Standard Oil Co. of Kentucky v. Alabama & Vicksburg et al.

Filed February 26 by Chas. Van Overbeke, traffic manager, against a specific horizontal

advance of $4\frac{1}{2}$ cents per 100 pounds on *petroleum products* under Freight Rate Authority No. 96 as unjust and unreasonable.

Asks for cease and desist order and reparation.

Docket No. 11268—Ringwood Company, Ringwood, N. J., v. Erie et al.

Filed February 26 by Parsons, Closson & McIlvaine, attorneys, against unjust and unreasonable rates on *iron ore* from Ringwood and unduly discriminatory in favor of shippers at Missabe, Menominee and other ranges in the Northwest and from mines in New York.

Asks for cease and desist order, just and reasonable rates and reparation.

Docket No. 11269—Illinois Steel Co., Gary, Ind., v. Elgin, Joliet & Eastern et al.

Filed February 26 by F. T. Bentley, traffic manager, against rate of \$5 per car plus 15 cents per ton on shipments of *coke* from coke ovens to mills and blast furnaces at Gary.

Asks for cease and desist order and rate of \$6.50 per car and reparation.

Docket No. 11272—Wiscasset Mills Co., Albemarle, N. C., v. Southern Railway et al.

Filed February 27 against unjust and unreasonable rates on *coal* from Catoosa, Tenn., to Albemarle, N. C.

Asks just and reasonable rates and reparation.

Docket No. 11274—Wharton Steel Co., Wharton, N. J., v. Central Railroad Co. of New Jersey et al.

Filed February 27 by Chas. MacVeagh and C. S. Belsterling, attorneys, New York City, against unwarranted demurrage charges on *iron ore* shipments unloading of which was delayed by weather conditions, resulting in ore being received in frozen condition.

Asks reparation of \$12,092.

Docket No. 11224—Sub. No. 1—Chicago Coal Merchants' Association v. A. T. & S. F. et al.

Filed February 28 by Sims, Welch & Godman and C. R. Hillyer, attorneys, against unjust and unreasonable through rates on *coal* and *coke* from points of production in Pennsylvania, West Virginia, Kentucky, Indiana and Illinois fields to points in Chicago switching district.

Asks cease and desist order, establishment of just and reasonable joint through rates and reparation.

Docket No. 11276—Mexican Petroleum Corporation of Louisiana, Inc., Destrahan, La., v. Indiana Harbor Belt et al.

Filed February 27 by R. J. Wilkinson, New Orleans, against a rate of $32\frac{1}{2}$ cents on *sulphuric acid* in tank cars from Grasselli, Ind., to Destrahan, La., to the extent that it exceeded $22\frac{1}{2}$ cents from Grasselli to New Orleans and Baton Rouge, La.

Asks for cease and desist order and reparation.

Docket No. 11277—Ozark Refining Co., for Charles C. Ditto et al, Ft. Smith, v. C. R. I. & P., et al.

Filed February 27 by Clifford Thorne, attorney, Chicago, against a rate of $26\frac{1}{2}$ cents on *crude petroleum* from Billings, Okla., to Ft. Smith as unjust and unreasonable to the extent that it exceeded a rate of 22 cents previously in effect.

Asks cease and desist order, establishment of just and reasonable rate not to exceed $20\frac{1}{2}$ cents and reparation.

Docket No. 11278—The Midland Refining Co., El Dorado, Kan., v. Missouri Pacific et al.

Filed February 27 by A. F. Winn, Chicago, against a fourth-class rate of 35 cents on *sulphuric acid* from Coffeyville to El Dorado, Kan., as unjust and unreasonable.

Asks cease and desist order and reparation on a basis of $21\frac{1}{2}$ -cent rate.

Docket No. 11279—Chattanooga Coke & Gas Co., Chattanooga, Tenn., v. C. H. & D. et al.

Filed February 27 by J. S. Fletcher, attorney, against a rate of $61\frac{1}{2}$ cents on *coal tar oil* to Syracuse, N. Y., from Chattanooga, Tenn., as unjust and unreasonable.

Asks cease and desist order and reparation.

Docket No. 11283—Miami Copper Co., Miami, Ariz., v. Arizona Eastern et al.

Filed February 28 by Guggenheimer, Untemyer & Marshall and F. M. Swacker, attorneys, against unjust, unreasonable and unjustly discriminatory rates on *pine oil* from Pensacola, Fla., to Miami.

Asks for just, reasonable and non-discriminatory rates and reparation.

Docket No. 11286—Cosden & Co. et al. v. Midland Valley et al.

Filed February 28 by Clifford Thorne, attorney, against unjust, unreasonable *rates* from points on the Sapulpa Oil Field Railway to other points in Oklahoma.

Asks for reasonable rates and reparation.

Docket No. 11287—Traffic Bureau of Nashville v. L. & N. et al.

Filed February 28 by T. M. Henderson, commissioner, against unjust and unreasonable rates on *coal* from mines on the L. & N. in Western Kentucky and on the Tennessee Central, in Tennessee, to Nashville.

Asks for reasonable rates and reparation.

Docket No. 11289—United Light & Railway Co. v. C. R. I. & P. et al.

Filed February 28 by G. M. Cummins, traffic counsel, Davenport, Iowa, against unjust, unreasonable and unjustly discriminatory rates on *soft coal* from Kentucky to

Davenport, Ottumwa, Iowa City and Fort Dodge.

Asks for just and reasonable rates and reparation.

Docket No. 11292—The Parkersburg Rig & Reel Co., Parkersburg, W. Va., v. A. T. & S. F. et al.

Filed February 27 by V. E. Milsark, traffic manager, against unjust and unreasonable rates on *nails, parts of oil rigging machinery* from West Virginia to Texas points.

Asks for just and reasonable rates and reparation.

Docket No. 11295—Mississippi Valley Iron Co., St. Louis, Mo., v. Missouri Pacific et al.

Filed March 1 by I. H. Gamble, attorney, against unjust and unreasonable switching charges on *coke, C. L.*, in St. Louis; also unjust and unreasonable rates.

Asks for cease and desist order, a rate of 1 cent per 100 pounds and reparation.

Docket No. 11298—The Parkersburg Rig & Wheel Co., Parkersburg, W. Va., v. A. T. & S. F. et al.

Filed February 27 by V. E. Milsark, traffic manager, against unjust and unreasonable rates on *wooden tank material* from Tulsa, Okla., to points in Texas.

Asks for reasonable rates and reparation.

Docket No. 11300—Ozark Refining Co., Fort Smith, Ark., v. Chicago & Alton et al.

Filed February 28 by Clifford Thorne, attorney, against unjust and unreasonable rates on *fuel oil* from Fort Smith to Detroit and Cleveland, the rates being combination on East Mississippi River crossings.

Asks for reasonable rates and reparation.

Docket No. 11304—American Smelting & Refining Co., New York, v. B. & O. et al.

Filed February 28 by A. B. Hayes, attorney, against unjust and unreasonable demurrage charges on *coke* at Baltimore awaiting ocean transportation to South America.

Asks for reparation.

Docket No. 11310—Farmers' Fuel Co., Kansas City, v. Chicago & Alton et al.

Filed March 8 by S. C. Bates, attorney, against unjust and unreasonable rates on *coal* from Higginsville, Mo., to destinations in Missouri and Kansas by reason of the charge of 20 cents per ton by the Higginsville Switch Co.

Asks for joint rates and reparation.

TENTATIVE REPORTS

Docket No. 10862—International Agricultural Corporation et al. v. Director-General S. A. L. Ry. Co. et al.

A tentative report in this case has been provided by Attorney-Examiner Pattison, the syllabus of which is as follows:

"Rate charged for the transportation of

fuel oil, in tank cars, from Tampa and Port Tampa, Fla., to points in the Bone Valley district of Florida not found unreasonable, as alleged. Complaint dismissed."

Docket No. 10783—Coal Trade Bureau of Illinois v. Director-General C. B. & Q. R. R. Co. et al.

A tentative report in this case has been proposed by Attorney-Examiner W. A. Disque, the syllabus of which is as follows:

"Rates on coal from points in the Fulton-Peoria district in Illinois to points in Iowa found to be unduly prejudicial."

Docket No. 10686—Illinois Coal Traffic Bureau et al. v. Director-General A. & W. Ry. Co. et al.

A tentative report in this case has been proposed by Examiner F. H. Barclay, the syllabus of which is as follows:

"Present relationship of rates on bituminous coal from grouped points in Illinois and Indiana and from named docks on Lakes Superior and Michigan to points in Wisconsin, Northern Iowa, Minnesota, North and South Dakota, representing a change from the relationship subsisting prior to December 1, 1910, by reason of greater increases in the rates from Illinois and Indiana than from the docks not found to subject complainants to undue prejudice or to be otherwise unlawful. Complaint dismissed."

Docket No. 5265—L. Wertheim Coal & Coke Co. v. Lehigh Valley R. R. Co.

A tentative report in this case has been proposed by Attorney-Examiner C. V. Burnside, the syllabus of which is as follows:

"1. Rates applicable on complainant's shipments of anthracite coal in carloads from points in the Lehigh & Wyoming regions of Pennsylvania to Jersey City, N. J., during the years from 1906 to 1911, inclusive, found to have been unreasonable to the extent that they exceeded, per ton of 2240 pounds, \$1.45 on prepared sizes and \$1.35 on smaller sizes. Reparation awarded.

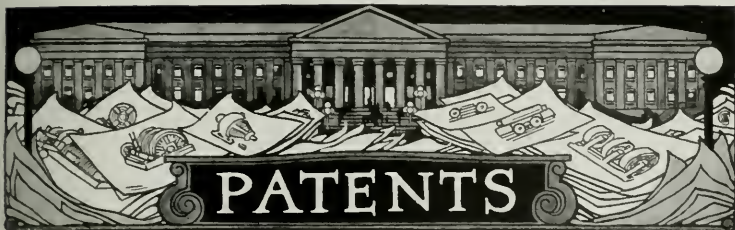
"2. Allowance by the Lehigh Valley Coal Co. of 15 cents per ton on coal sold to complainant's competitors for delivery in New York City was equivalent to an allowance by the defendant, and was unjustly discriminatory and unduly prejudicial to the damage of complainant.

"3. As to other allegations of the complaint, the evidence fails to establish a *prima facie* case."

Docket No. 10907—Goldsmith Brothers Smelting & Refining Co. v. Director-General P. C. C. & St. L. R. R. Co. et al.

A tentative report in this case has been proposed by Examiner Ulysses Butler, the syllabus of which is as follows:

"A carload shipment of copper sulphate from Englewood, Ill., to Philadelphia, Pa., not shown to have been misrouted. Complaint dismissed."



CONDUCTED BY JOHN BOYLE, JR.

1,329,380—*Henry A. Doerner*, Meriden, Ct.
Method of Treating Molybdenum Ores which comprises passing a current of chlorin gas through the material while maintaining it at a temperature of about 500 degrees Centigrade and treating the resulting gaseous product for the recovery therefrom of compounds of molybdenum.

1,329,434—*Titus Sheard*, Lakewood, and *Herbert E. Wetherbee*, Cleveland Heights, Ohio; assigned to The Dolomite Products Co., Cleveland.

Refractory Material. The object is to synthetically produce from raw dolomite, a compound that may be made to approach as closely as may be desired, the composition and qualities of Austrian magnesite. The steps consist in burning the dolomite, treating the resulting oxides with a solution containing iron chloride, whereby the magnesium oxide is hydrated and the calcium oxide converted into calcium chlorid with precipitation of iron hydrate, separating out the residual solid material, and heating the mixture to form compact masses of desired shape and size.

1,329,493—*Raymond F. Bacon*, Pittsburgh, Pa.; assigned to Metals Recovery Co.

Flotation of Coal. Bituminous coal is comminuted to produce a finely divided product in which the particles have sharp angular edges and fresh lustrous surfaces, the resultant product being subject to separation by froth flotation.

1,329,495, 1,329,496, 1,329,497 and 1,329,498—*Leroy G. Binkley*, Chicago; assigned to Railway & Mine Supply Co., Chicago.

Mine Car Wheels. Construction for attaching the wheel to the axle.

1,329,499—*Leroy G. Binkley*, Chicago; assigned to Railway & Mine Supply Co., Chicago.

Mine Car Wheel provided with means for insuring an adequate supply of lubricant to the axle.

1,329,500—*Robert M. Bradford*, Beaumont, Texas.

Well-Drilling Rig provided with a revolvable wheel having a device operatively connected to a walking beam, from which the drilling tool is suspended, so that upon every complete revolution of the wheel the drilling tool will be given two direct drops, each alternating with the lifting movement of the drill or bit.

1,329,737, 1,329,817 and 1,329,818—*Edson R. Holcott*, Los Angeles, Cal.; assigned to International Precipitation Co., Los Angeles, Cal.

Precipitating Suspended Material from Furnace Gases. Humidifies the gases to lower the temperature and cause partial precipitation and then passes to an electrical precipitator.

1,329,747—*Otto N. Berndt*, Chicago, Ill.; assigned to Lindsay Light Co.

Recovering Thorium by treating a phosphatic thorium compound to the continued action of fuming sulphuric acid in such a manner as to decompose the sands and convert the thorium into an insoluble compound.

1,329,835—*Linn Bradley*, East Orange, N. J.; assigned to Research Corporation, New York.

Electrical Precipitation of Gases consisting in providing uniform conductive conditions by controlling the composition of the gas before passing to the precipitating apparatus, as by humidifying the gas and also by excluding entrance of any outside air which might otherwise enter the body of the gas by maintaining sufficient pressure to insure that leakage cannot take place.

1,329,835—*Lewis J. Hewes*, Oak Park, Ill.; assigned to Traylor Engineering & Mfg. Co., Allentown, Pa.

Gyratory Crusher provided with a rigid support for the upper end of the shaft which can be easily removed and offers a mini-

imum amount of obstruction to the feeding of the crusher.

1,329,844—*Archibald F. Meston*, New York; assigned to Research Corporation, New York.

Down-Draft Wet Precipitator in which there is added to the gases liquid in finely divided form and in greater quantity than will be evaporated at the temperature at which added and then subjecting the gases to the action of an electric field.

1,329,850—*Walter A. Schmidt*, Los Angeles, Cal., and *Linn Bradley*, East Orange, N. J.; assigned to Research Corporation, New York.

Electrical Treatment of Gases involving the combination of humidifying and electrical precipitation.

1,329,914—*James H. McKenna*, Joplin, Mo. **Dirt-Loading Machine** having an adjustable plate provided with carrier devices for initially lifting the dirt and placing the same upon the conveyor of the machine.

1,330,014—*Halver R. Straight*, Adel, Iowa. **Apparatus for Distilling Oil Bearing Shale** comprising an inclined rotary retort, internally heated by a fluid fuel burner whereby portions of the shale itself may be used for combustion.

1,330,090—*Albert F. Plock*, Pittsburgh, Pa. **Sintering Plant** involving an arrangement of cars, tracks and means for loading and dumping the cars.

1,330,371—*Charles E. Griswold*, Globe, Ariz. **Shaking Screen** in which the screening surface is arc-shaped.

1,330,742—*Edmund C. Morgan*, New York. **Method of Mining Coal** consisting in bodily dislodging sections of material in its native bed in a mine chamber, each section of a dimension predetermined in its cut position in said native bed and arranging such sections to form roof-supporting walls in parallel relation to the working face.

1,330,743—*Edmund C. Morgan*, New York. **Apparatus for Mining Roof Props** which cuts kerfs about a mass of material in the roof or floor of a mine chamber to form a frustum of material which can easily be broken off so as to have a height approximately equal to the distance between the floor and roof of the mine chamber to permit the frustum to be used as a roof prop spaced from the place of dislodgement.

1,330,744—*Edmund C. Morgan*, New York. **Stone-Cutting and Handling Apparatus** adapted to cut blocks of stone or other ma-

terial in a mine and moving such blocks from their cut positions in the mine to other positions where they can act as roof props.

1,330,825—*Robert Temple*, Denver, Colo.; assigned to Imperial Tunneling Machine Co.

Rock-Cutting Apparatus for tunneling or sinking shafts wherein a plurality of fluid actuated reciprocating cutters are mounted upon a rotative head so that the different cutters are in turn opposed to the rock face in which the cut is being made. Automatic means are provided for bringing the cutters to rest during that part of their movement in which they are not opposed to the rock face being operated on, and means are also provided for supplying power to each individual cutter in proportion to the resistance encountered thereby when in operation.

1,330,963—*James W. Turk*, Portland, Ore. **Machine for Separating Gold from Sand** by sifting and air currents, and without the use of water.

1,331,225—*Edson R. Walcott*, Los Angeles, Cal.; assigned to International Precipitation Co.

Electrical Precipitation of Gases consisting in rendering the deposit conducting by injecting into the gases a finely divided solid conducting material and precipitating such material along with the said suspended material.

1,331,238—*John M. Callow et al.*, Salt Lake City; assigned to Metals Recovery Co.

Flotation Apparatus in which the porous bottom consists of a porous brick or slab composed of a mixture of bakelite and sand shaped to form and hardened by heat.

1,331,309—*George S. Wright*, Toledo, Ohio; assigned to National Supply Co., Toledo.

Rotary Well-Drilling Apparatus provided with means for connecting the drilling string with a rotary table. The object is to provide a plurality of drill stems which may be used in tandem whereby a greater depth may be drilled before disconnecting the string and inserting additional sections.

1,331,320—*Louis Chomier*, St. Etienne, France.

Miner's Lamp consisting of two parts, the body of the lamp containing the source of electricity and the head of the lamp supporting the source of the light. The two parts are united by means of a screw-threaded cap fixed on the body of the lamp, and they can only be separated by means of a magnet acting in a special locking device arranged in the head of the lamp.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

NATIONALIZATION AGAIN

The coal miners of England are determined that British coal mines shall be nationalized. Some months ago they made the demand, unqualified and backed by the threat of a national strike. The matter was threshed out in Parliament; a commission was appointed to investigate, and after several conferences the move to nationalize the coal mines was dropped. Now England faces the same old demands backed by the friends of another strike.

LEADERSHIP IN THE BITUMINOUS COAL INDUSTRY

An article by George H. Cushing in the April issue of THE MINING CONGRESS JOURNAL concerning the lack of leadership in the bituminous coal industry has brought out criticism. While agreeing in a general way with the article, THE MINING CONGRESS JOURNAL does not believe this condition exists because there are not plenty of men in the industry big and broad enough to be leaders, but rather, that there are too many leaders in the industry any one of whom possesses the ability to lead any aggregation with similar interests.

The bituminous coal industry is not so very different from all other branches of mining. To be successful in the mining industry requires more of brains, more of sagacity, more of leadership and more of independent thinking than any other industry, because of the fact that each particular mine is different from all other mines not only as to the differences in geological structure, depth

of ore bodies and distances from market, but also in the character of the minerals and the peculiarities of treatment required for each separate class. Because of this the mining industry develops a race of independents, each of whom is trained to handle his own enterprise to a large extent independently of everyone else.

The present situation in the bituminous industry is sufficient proof of the need of accepted leadership. This will probably not obtain until sufficient grief has been encountered to force each independent to be willing to forego some of his own views in order that general plans of operation may be accepted as nearly adjusted to a standard as the varying conditions in the different districts will permit.

The bituminous industry has passed through long periods of continuing losses and short periods of large profits, but whether losing or making money has been under constant criticism by the public. Surely there must come a time when its problems will be understood. An industry so essential to the public comfort and to every line of industry should be so managed that its leaders will be given public praise instead of condemnation, when the public conscience will rise up and protest criminal indictments against such men as Charlie Moderwell, who, because of a long and varied business experience, commands the confidence, respect and affection of all those who know his business transactions and his altruistic life.

We shall be glad to hear from our readers with expressions as to the rea-

sons for the present disorganization, the means through which united effort may be accomplished and the possibility of accomplishment.

GOMPERS AND SAFETY

In a recent address to the Pennsylvania Safety Congress Samuel Gompers, President of the American Federation of Labor, gave voice to some very sensible statements, which we believe will be very sympathetically received by all employers of labor. "It should be made obligatory for industry to apply the devices that are available," said Mr. Gompers. "The burden of accident risk should be removed, as it can be removed, from the life and work of the toilers."

We believe that it is commonly accepted as a business principle by most employers, especially so in the mines, that it is not only humanitarian but good business to protect the miners and other employees from injury and to teach them to be more careful in the handling of tools and explosives, and in travelling from point to point in their duties.

The National Safety Council and the Safety Department of the Bureau of Mines are doing a most excellent work; the State Mine Inspection Departments and many other agencies are at work and now there is being organized by the American Mining Congress a nationwide committee on standardization of mining equipment, one of the duties of which will be to consider the standardization of machinery and methods. This is a long step in advance in the fight for national safety and in behalf of the movement to reduce casualties among employees.

"The will on the part of employers to promote and establish industrial justice will give to those who labor in industry the incentive to put forth their best efforts, mental and physical," said Mr. Gompers, and then he closed his address with these words: "Safety will increase as liberty increases. Those whose brains and souls are ensnared in bondage have

the least care for the welfare of their Lodies."

If Mr. Gompers will co-operate with the gentlemen who will probably from this time forward promote the ideas promulgated by the President's Industrial Conference looking to co-operative movements in the industries of the United States and will cease for a time the effort to establish the supremacy of the American Federation of Labor in the control of industrial plants; if he will throw his executive and organization strength back of the movement which is already assured of a sympathetic reception on the part of the employers and the public, he will no doubt live sufficiently long to see the day when real "liberty" will be fully established in the industrial world with employers.

UNCLE SAM'S PIN MONEY

Final collections for the first quarter for the Federal income and excess profits taxes were completed March 15, the total collected being in round figures \$900,000,000. Many of us will recall that the first billion dollar Congress of the United States received a great deal of very unfavorable publicity. Charges of extravagance were rampant throughout the nation, but many of us would be very glad to return once more to the good old days of the billion dollar Congress. The country is in complete sympathy with Congressman Mondell's plea to the Republicans in the House, to "remember that the watchword of Congress in the present session must be economy." Spell ECON-OMY in capital letters. Underscore it and place it in the hands of every member of Congress. It might serve to quiet the unrest in the nation, which is now facing the aftermath of thoughtless extravagance developed by unlimited war power.

DECREASING ACCIDENTS

Two of America's largest manufacturing concerns have adopted a peculiar and interesting method of encouraging careful attention to safety rules in their

plants. Public credit is given in a publication issued by these concerns to the foremen of departments in which the percentage of accidents is notably decreased each month and particular credit given to those foremen whose divisions show no accidents whatever. By the same token, however, a deadly parallel is run in another column of the magazine under the caption "Spilling the Beans," and in that column the names of the foremen in whose departments carelessness and accidents are recorded, appear regularly together with percentages.

Contrary to expectations, this form of publicity does not excite antipathy to safety rules, and these concerns which are endeavoring to arouse the spirit of competition are thus far meeting with considerable success.

THE MINING CONGRESS JOURNAL suggests that some such method might be profitable in every mine in America, and there might be added some especial award of merit for a continued manifestation of carefulness on the part of the men responsible for sub-departments of production.

MORE DANGEROUS THAN ANARCHY

The fundamental principles of republican government are being attacked from many different sides and by many different cults and classes of people. Many perhaps of these do not realize the consequences which necessarily grow from their teachings. These may be divided into two classes: anarchists and parlor-bolsheviks. In the first class are the open enemies of representative government; who believe in and advocate direct action, who tolerate lawlessness as a means of winning a strike and believe that the end always justifies the means. In the second class are those who count themselves as reformers, who are filled with imagined progressive ideas, who believe the country has outgrown the Constitution; who loudly prate about the popular will; who never attend a primary but protest vehemently against

caucus rule; who bolt their party because it is corrupt, but do nothing to reform it; who do not believe in party responsibility but hope through parlor discussion to prevent the party boss from controlling nominations after surrendering and neglecting the only means of preventing his success; who believe that all large fortunes were acquired by dishonest means; who believe that big business is a menace to republican government. These people are not all wrong; many, if not all of them, are well-intentioned. Some of them are ready to make and often do make many sacrifices to put in effect their ideas for the public good. But they have lost sight of the fundamentals of government. They believe that humanity can govern itself; that the only difference between a good citizen and a bad citizen is one of environment and that kindness is a remedy for evil tendencies; they would abolish the courts and have their policemen go unarmed. They still glory in the downfall of Porfirio Diaz in spite of the bitter experience through which Mexico has passed and of her present almost hopeless situation. They still rejoice in the failure of the Russian Empire notwithstanding the misery and suffering and starvation which has resulted from unstable government. They still refuse to profit by the practical experience of all mankind. In consequence of their sublime faith in a perfected humanity and the half-truths embodied in their theories they are more dangerous to our government than its avowed and open enemies.

To quote from Tennyson:

"A lie which is all a lie
May be met and fought outright;
But a lie which is half a truth
Is a harder matter to fight."

LABOR'S OPPORTUNITY

Opportunity consists in a chance to increase the range of individual activity. A man who operates a large enterprise, employing thousands of men, has increased the range of his activity, his usefulness and his earning power and to an

extent he has increased his individual reward.

The laborer who stands on the deck of a coal car loading machine is not only more comfortable than if he were bending his back over a shovel of coal, but he is also increasing his range of usefulness and in so far as he does this efficiently, he is entitled to an increased individual reward.

Have you visited a blast furnace recently? You will be amazed at the small number of men working about a furnace when pig iron is being cast. We have been accustomed to seeing furnaces with many workers hurrying about, dodging hot metal and in constant danger; but all that happens now is a stream of molten iron running into pig molds carried on an elevating belt and dumped into a waiting freight car at the top. A half dozen men stand about and watch this happen. Are they better off than they would be doing this all by man power? Assuredly they are safer, more comfortable and making more money.

The point we want to make is this: Labor, by the increased use of machinery, can increase its earning power. The use of improved machinery so multiplies the resultant output of each man's individual effort that he can continue to earn the high wages that are being paid to him today because he can deliver greater results. He can continue to get such wages under just one condition, that he deliver an honest day's work for an honest day's pay. Only through honest and efficient work can production be so increased as to make available to all the benefits of a well supplied market.

Labor's great opportunity lies in so utilizing production machinery as to make the necessities and luxuries of life available to all.

A REASONABLE REQUEST

By what precedent of legal procedure is a law passed by Congress, interpreted solely by the attorney representing one party in interest?

In the administration of the portion of the War Contracts Validating Act which

applies to war minerals, the claimants have had the law interpreted solely by the legal representatives of the government, and not by any properly constituted court. The Attorney-General not only by his natural activities but by his very oath of office is sworn to uphold the rights of the United States. In an action against the United States his office acts as its defending attorneys—in an action on behalf of the United States it acts as prosecuting attorneys; and this is the only agency which is consulted in making interpretation of the War Minerals Relief Act.

No claimant, by himself or by his attorney, has been allowed to submit a brief to an unbiased tribunal in rebuttal or in argument on any of the points of law which have been so drastically construed against claimants.

To bring relief from this situation H. R. 13091 was introduced. Under its provisions claimants are asking only that they be heard in the Court of Claims, a legal tribunal where they may present their cases before an unprejudiced court, and where they may argue both the facts in their case and the interpretation to be placed upon the law.

Such an amendment to the present law should be welcomed by the War Minerals Relief Commission for the following reasons:

First—The Commission will be relieved of the responsibility of carrying out interpretations placed on the law by the Attorney-General.

Second—It would be relieved of the criticisms of claimants who have not received what they believe themselves entitled to under the law who will be satisfied if the right of hearing before a court is granted them on appeal.

Third—The Commission will be relieved of being placed in the position of judge, jury, prosecuting attorney, prosecuting witness, custodian of funds and court of last appeal, as it now is.

The right of appeal to the Court of Claims has already been given to claimants under the first section of the same act. Claimants for losses under war

contracts had the right of appeal to the Court of Claims. They were the fabricators of the materials that the miners were producing. The miners as the producers of raw materials are asking Congress to give them this right—that is all. This request is reasonable and fair. Every American citizen is entitled to have his controversy decided by a properly constituted and unbiased court. We do not believe that Congress will deny this right.

THE OIL SITUATION

The American oil situation is peculiar and puzzling. To the average citizen it would seem that the ever increasing oil fields of the United States would eventually deluge the market and he cannot understand the present continuous rise in the price of oil and gasoline.

Suspicion always rests upon the heads of those responsible for the distribution of this vitally important fuel element and few, except those with especial knowledge of the technical and commercial problems involved, are in sympathy with the present condition.

On December 31, 1918, the stocks on hand in the United States were: Kerosene, 479,750,082 gallons. On the same date in 1919 there were but 380,117,829 gallons. More startling figures were given as to the stocks of gasoline on the same date in 1918, reports showing 412,256,833 gallons, while at the close of 1919 there remained on hand 297,326,983 gallons. The lubricating oil stocks on December 31, 1918, aggregated 136,856,348 gallons as against 138,853,574 gallons in 1919; but gas and fuel oil showed an increase of from 577,809,112 on December 31, 1918, to 659,001,357 gallons in 1919. Production in each case was increased during 1919; the total 1918 production of kerosene being 2,323,110,219 gallons, which was increased to 2,721,749,992 gallons in 1919; while gasoline increased from 3,982,569,796 gallons in 1918 to 4,255,184,080 gallons in 1919; lubricating and fuel oils being increased in proportional quantities. Exports of petroleum

were increased from 484,613,905 gallons in 1918 to 965,115,225 gallons in 1919; and of gasoline were decreased from 556,422,334 in 1918 to 365,883,001 gallons in 1919. Domestic consumption of kerosene was reduced in 1919 by 49,805,044 gallons while the domestic consumption of gasoline was slightly increased in 1919. Taking December as a good average month, the Bureau of Mines develops the fact that there has been a constant increase in the daily average production of American oil fields of from 811,481 barrels of crude run and 66,753 barrels of purchased and re-run in 1917 to 1,046,052 barrels of crude run and 123,229 barrels of re-run in 1919; and yet with these figures in mind the Bureau informs THE MINING CONGRESS JOURNAL that America is using more crude oil than can be produced under present conditions, while at the same time America is still exporting a vast quantity of this valuable resource. The Interior Department will not give out information as to what transpired at the recent conference between the Secretaries of the War and Navy Departments and the Director of the Bureau of Mines when the oil shortage was discussed, the Navy Department and the Shipping Board having requested bids for fuel oil, vast quantities of liquid fuel being necessary for Governmental purposes. The bids were extraordinarily high as compared with the prices previously paid, and the intimation was more than definite that at any price the Government would have a difficult time in securing a sufficient amount of fuel for its requirements.

The Government is giving the petroleum industry full credit for the manner in which the oil price has been held down until the present time under the prevailing increases of cost in production, petroleum it being said to its credit not being advanced as other commodities were advanced early in the present upward movement.

There has been loose talk of the Government taking over the oil fields of the

United States for its protection, and there has been some definite talk of a possible move on the part of Congress authorizing the President to confiscate the production of oil from the Indian and Government lands.

It is said, however, that the Government does not desire to burn its fingers with further experiments in Federal control until it is forced to do so by the passage of laws for that purpose, and it is probable that no action will be taken for some time at least. There are two ways open to the Government for the securing of sufficient oil for Government use: First, by preventing the use of fuel oil for industrial purposes, and second, an embargo on exports of petroleum, crude or refined.

These steps would be drastic indeed and it is apparently the desire of the Government that the oil industry should work out its own salvation, while, of course, the public pays the bill.

Whether true or not, it is said that President Carranza has declared that Spain has a patrimony in the minerals and metals of Mexico, and he is, therefore, discouraging in every conceivable manner further investments by Americans in Mexican oil fields. The principal fuel oil supply of the United States at the present time seems to be from Mexico, but it is very difficult to get tonnage allocation in order to get the oil out of the country. Another phase of the complicated question is that during the coal strike hundreds of manufacturing institutions were forced to introduce liquid fuel for their own protection, and a large proportion of these industrial plants are refusing to return to coal, while an increasingly large number of industrial ventures throughout the country are adopting liquid fuel.

The problem is a complex one. In New York charges have been publicly made by attorneys for the State that the talk of extreme oil shortage is propaganda for the purpose of pushing up the prices and helping the gas service companies to increase their rates, but such

charges do not seem to be borne out by the facts as they come from the Bureau of Mines, which is thoroughly equipped to give the public exact information in the final analysis.

LABOR'S POLITICAL MOVEMENT

Some months ago the American Federation of Labor announced its determination to "apply every legitimate means and all of the power at its command to accomplish the defeat of labor's enemies who aspire for public office, whether they be candidates for President, for Congress, for State Legislatures or any other office." The Federation further announced that "this political campaign must begin in the primaries. The record of every aspirant for public office must be thoroughly analyzed, stated in unmistakable language, and given the widest possible publicity. Labor's enemies and friends must be definitely known. To this end the American Federation of Labor has created the national non-partisan political campaign committee and it now calls upon all affiliated and recognized labor organizations to create district and local committees and to co-operate with the national committee and co-ordinate their efforts."

It is now announced from Washington that the committees employed by the American Federation of Labor in carrying out its declaration of principles are more numerous and efficient than those employed in behalf of any other political movement. The determination to throw the force of the labor vote against every candidate who does not accept the judgment and bow to the will of the labor organizations is not new. This in a general way has been practiced for many years. But this comprehensive nationwide movement in which all those who refuse to wear the collar of labor organizations shall be black-listed is new and in proportion to its extent becomes an increasing menace to representative government.

THE MINING CONGRESS JOURNAL be-

believes it is high time that there shall be a count of those who believe that the country shall not be controlled by a minority of its citizenship. Until the recent past organized labor has been in position to direct the enactment of law and the administration of law. Beginning with the Clayton bill, which exempted labor from the provisions of the Sherman law, and followed by the Adamson bill, which was forced upon Congress and the President in grossly indecent haste by the threat that unless this bill should become a law before midnight that a strike would be called which would demoralize the industries of the country and deprive the people of the large cities of the necessities of life, this high-handed procedure brought its own reaction. Legislators who yielded to this brazen demand of organized labor were severely criticised by the general public. A better recognition of the enormity of this procedure has brought out a number of men who would prefer to suffer defeat at the hands of the people than to sacrifice their public responsibility by further surrender to meet the demand of a minority.

The plan of organized labor through non-partisan political committees to throw its strength to those candidates who agree to submit to its demands, and thus elect sufficient representatives in Congress to control the Government, presents a situation which the American people should at once understand. Are we ready to turn over the control of our national government to the American Federation of Labor?

Are we ready to accept class leadership in the place of national leadership? THE MINING CONGRESS JOURNAL believes that the perpetuity of representative government is jeopardized by this movement. Organized labor should have in our governmental system a pro rata representation based upon its voting strength. To permit organized labor to have a control means that other citizens shall be deprived of their just share in governmental management.

THE MINING CONGRESS JOURNAL does not approve the recent acts of the New

York State Legislature in depriving men elected to the assembly of their seats on account of their membership in a Socialist organization. It believes that Socialists are entitled to be represented in proportion to their numbers. It does not believe that this country can maintain its present form of government on any other basis than that its officials shall fairly represent the majority of the citizens in the district from which they are selected. Because of these principles, it is necessary that the "boring from within" process by which labor proposes to elect here a Republican, there a Democrat and perhaps somewhere else a Socialist or a Prohibitionist, all of whom have pledged themselves to the support of labor demands, or, to quote the American Federation of Labor program, "stated in unmistakable language" a higher obligation than to the party upon whose platform they are elected. A general understanding of this situation will demonstrate that the present movement of organized labor constitutes a dangerous blunder, wrong in principle, wrong in purpose and certain to so solidify the opposition as, temporarily at least, to prevent organized labor from having that representation to which it may be entitled. There has been altogether too much surrender to the demands of organized minorities. Let the issue be well understood and let us stand unflinchingly against any movement which proposes that any minority, good or bad, shall control the Government. Let our representatives be broad, fair-minded men, with ability to grasp and courage to execute whatever shall be for the benefit of the nation as a whole.

Ask Funds for Denver Mint

The Treasury Department has asked Congress for an appropriation of \$16,500 for pay of wages of workmen at the Denver mint for the balance of the fiscal year ending June 30. The mint has been working on a 24-hour basis for four months to meet the abnormal demand for coinage, and the appropriation for wages for workmen has been exhausted.

CAMERON LOSES CLAIM ON EDGE OF THE GRAND CANYON

The United States Supreme Court, in an opinion by Justice Van Devanter, in the case of Ralph H. Cameron et al, appellants, vs. the United States, on appeal from the United States Circuit Court of Appeals for the Ninth Circuit, sustains the decision of the lower court, which decided in favor of the Government in the suit brought to enjoin Cameron and others from occupying, using for business purposes, asserting any right to or interfering with the public use of a tract of land in Arizona approximately 1500 feet long and 600 feet wide which Cameron claimed as a lode mining claim, and to require Cameron and others to remove therefrom certain buildings, filth and refuse placed thereon in the course of its use by them as a livery stable site and otherwise.

The opinion is of timely interest to miners in that the court upholds the right of the Interior Department to pass upon the validity of mining claims.

In the District Court a decree was entered for the United States which was affirmed by the Circuit Court of Appeals. The land in question is a tract on the southern rim of the Grand Canyon of the Colorado, adjacent to the railroad terminal and hotel buildings used by visitors to the canyon, and embraces the head of the trail from which visitors descend to and ascend from the bottom of the canyon. Formerly it was public land and open to acquisition under the public land laws. Since February 20, 1803, it has been within a public forest reserve established and continued by Presidential proclamations under acts of Congress, and since January 11, 1908, all but the minor part of it has been within a monument reserve established by Presidential proclamation under act of Congress.

CONSTRUCTION OF MINERAL LAW BEFORE SUPREME COURT

Questions involving jurisdiction of Interior Department and courts over construction of mining claims are presented to the United States Supreme Court in a case brought by Thomas D. Thomas against the South Butte Mining Co., from the Montana courts. Can the courts determine controversies in reference to lands in advance of ruling by the General Land Office is the issue. Thomas sought a patent to a lode claim on the exterior boundaries of a placer patent of the Butte Company under the act of May 10, 1872, on the ground that it was land reserved to the United States. The Butte company brought proceedings which were dismissed by the District Court, which, however, was reversed by the Circuit Court, and Thomas now appeals to the Supreme Court. The decision of the Supreme Court will establish a rule for the general land office in similar case.

EMPLOYS AEROPLANE JITNEY; SCHOLZ HURT IN MISHAP

In an effort to employ an airplane to provide quick transportation between three of the mines of the Raleigh-Wyoming Company in West Virginia, Carl Scholz, manager of the company, recently met with a serious accident. As the crow flies, the three mines of the company are close together, but, due to the intervening of mountain ranges, direct communication between the mines is not possible on the surface. It requires seven hours to go from one of the mines to a mine in an adjoining valley, and it requires 14 hours by train to reach a third mine. Either mine can be reached by aeroplane in less than an hour.

Recently Mr. Scholz arranged for the use of an airplane and an aviator. The aviator negotiated the trip between the mines a number of times without difficulty. One day Mr. Scholz had occasion to make a trip himself. It happened on that trip the aviator went up the wrong valley, and soon was confronted by a mountain which his machine, laden with two passengers, could not negotiate. No landing place was available. The machine struck a tree and Mr. Scholz suffered painful injuries. The experience, however, has not discouraged him in carrying out his plan to keep his properties in close touch with each other by air.

Hecla Co. Re-elects Board

The retiring board of the Hecla Mining Co., was re-elected at the annual meeting at Spokane recently. The board is composed of James F. McCarthy, president, treasurer and manager; W. J. C. Wakefield, vice-president; Mrs. Sarah Smith Wilbur, Dr. H. C. Lambach of Spokane; Carl Landsee and F. J. Kipp of Milwaukee, Wis., and Mr. Nolan. L. E. Hanley was re-elected secretary. The board of directors authorized the disbursement of an extra dividend of \$50,000 at the time of the regular quarterly disbursement of \$150,000 in June, making the total payment \$200,000 or 20 cents a share on the issue of 1,000,000 shares. The forthcoming disbursement will increase the grand total of dividends paid to \$8,205,000. The company is hoisting 750 tons daily, according to reports. About 600 tons of this is passed into the mill, the remainder being waste and crude ore. The volume of material hoisted is greater than at this period a year ago, but less than that of a corresponding period two years ago. Shipments are being made at the rate of 100 tons a day.

Chargeable to Capital Account

All expenditures by a mining company for prospecting and development for purpose of enlarging the business or continuing it beyond its present limits must be charged to capital account.—*Internal Revenue Ruling.*

MANNING RESIGNS—COTTRELL IS TO BE NEXT DIRECTOR OF BUREAU OF MINES

Dr. Van H. Manning has resigned as the Director of the Bureau of Mines to become Director of Research of the American Petroleum Institute. Dr. F. B. Cottrell has been designated to succeed Dr. Manning. Dr. Cottrell at present is Assistant Director of the Bureau of Mines in immediate charge of the technical branch of the Bureau's work. He is widely known because of the successful development of the Cottrell precipitator, which is being used with increasing success at smelters and other plants.

In his letter to the President, Dr. Manning says: "I hereby tender you my resignation, to take effect June 1, 1920, as Director of the Bureau of Mines.

"It will be with reluctance and deep regret that I shall sever my connection with the Department of the Interior after 34 years of active service therein, and it is the opportunity of being able to continue in another capacity, the work for the advancement of purposes fostered by the Department, that has been the chief factor in determining my decision to resign.

"I take this opportunity to express my sincere appreciation of the confidence that you have reposed in me as a public official, and of the cordial co-operation of the departmental executives whom I have been able to serve. Especially, I appreciate your constant help in my efforts to develop an organization that has at heart the welfare of the public, the advancement of the mineral industry and the safety of the 2,000,000 workers who contribute to the success of that industry.

"In leaving the Government service there comes to me, as it has over and over again, the thought that although this Government spends each year many millions of dollars in useful scientific work for the benefit of the whole people, the monetary recognition of its scientific and technical servants is not sufficient to enable them to continue in the service for the people. This has been especially true within the last few years, when it has been impossible for many men to remain in the Government service.

"With the marvelous expansion of the industry in this country and the growing necessity of science to industry, the scientific bureaus have been utterly unable to hold their assistants against the competition of industry which is taking their highly trained men at salaries the Government does not pay or even approach.

"I feel very deeply that there ought to be more adequate compensation for the scientific and technical men in the Government service, so that none of them may be compelled to accept positions on the outside.

"Many of these scientific men are of fine type for Government work; care little for the com-

mercial field; take an intense professional interest in their tasks and are of inestimable value to the Government."

Frederick G. Cottrell, chemist, metallurgist, inventor, was born in Oakland, Cal., January 10, 1877. He attended school in Oakland and matriculated at the University of California in 1892. As a university student he gave especial attention to science, particularly chemistry. After graduation in 1896, with the degree of Bachelor of Science, he was a Le Conte fellow at the University in 1896-7, and taught chemistry at the Oakland High School in 1897-1900. Then he went to Europe, where in 1901 and 1902 he studied at the University of Berlin and the University of Leipzig, receiving from the latter the degrees of Master of Arts and Doctor of Philosophy, 1902. On his return to this country in 1902 he was appointed instructor in physical chemistry at the University of California, and in 1906 was appointed assistant professor, holding this position until 1911. While at the university Dr. Cottrell's chief contributions to science were researches relating to the electrical precipitation of fume and fine particles suspended in the gases of smelter, blast furnace or cement works flues, and he finally evolved what is known as the Cottrell process for this purpose. This invention was first utilized at the Selby smelter in California for removing fumes from the waste gases of a sulphuric acid plant at the smelter, thereby abating a nuisance that threatened to necessitate shutting down the works. Subsequently this electrical precipitation process was installed at other smelters to remove fume and solid particles contained in the escaping gases, and it was also successfully used at cement plants, notably near Riverside, Cal., to prevent the dust from the calcining kilns from damaging nearby orange groves and vegetation. Today the Cottrell process of fume and dust removal is in world-wide use and is recovering materials heretofore wasted to the value of many thousands of dollars. One of the latest installations is at a large smelting plant in Japan; while the largest installation is at the Anaconda smelter, Anaconda, Mont. Dr. Cottrell in a desire to encourage scientific research turned over his extensive patent rights to a non-dividend paying corporation, known as the Research Corporation, a body formed for that purpose. A fundamental requirement in the incorporation is that all net profits shall be devoted to the interests of scientific research.

In 1911, when Dr. J. A. Holmes, the first director of the Bureau of Mines was serving as a member of commissions appointed by the Government to study alleged damages from smoke and fumes from the Selby and the Anaconda smelters, and the Bureau of Mines was

investigating at length the smelter-smoke problem, Dr. Cottrell, because of his scientific attainments and his special knowledge of metallurgical problems, was appointed chief physical chemist in the bureau. In 1914 he was appointed chief chemist, in 1916 chief metallurgist and in 1919 assistant director.

Aside from his work on smelter smoke Dr. Cottrell has been deeply interested in and intimately connected with work on the separation and purification of gases by liquification and fractional distillation. During the world war and subsequently thereto the development of the Norton or Bureau of Mines process for the recovery of helium from natural gas has been his special care, and it was chiefly through his efforts that a plant for recovering helium (a rare non-inflammable gas) on a large scale for military aeronautics has been erected near Petrolia, Texas.

Dr. Cottrell is a member of the American Chemical Society, Mining and Metallurgical Society of America, the American Electrochemical Society and the American Institute of Mining and Metallurgical Engineers. He was awarded the Perkin medal by the New York Section of the Society of Chemical Industry in 1919 in recognition of his work on electrical precipitation.

Cottrell Visits Western Stations

Dr. F. G. Cottrell, Assistant Director of the Bureau of Mines, has returned to Washington after an extensive visit to the Southwest and Pacific Coast in connection with the helium plant and general chemical and smelting work of the bureau. He visited the helium plant in Texas and the mining experiment station in Arizona. At Los Angeles he attended a meeting of the League of the Southwest, which was attended by five Governors. This meeting was in the interest of the development of the Colorado River Basin. This matter is of interest in view of the probable development of hydro-electric power and its benefits in electro-metallurgy and electrochemicals. The development of this project would be of interest in connection with mining in Arizona, California, Colorado, Oklahoma, Nevada, New Mexico, Texas and Utah. States embraced in the league.

Dr. Cottrell also visited Seattle and Butte. He went to Great Falls, where he found the furnaces running normally on zinc, copper refining and wire. He then proceeded to Minneapolis.

Would Remove Louis F. Post

Representatives Hoch of Kansas and Johnson of Washington, the latter chairman of the House Committee on Immigration, have charged before the House Rules Committee that Assistant Secretary of Labor Louis F. Post has failed to execute the law with reference to deportation of radicals. Legislation is aimed at the removal of Post.

In testimony before the committee Mr.

Johnson cited the case of George Audreytchine, described as a "prince of the I. W. W.," who was released by the Department of Labor. Later Audreytchine was arrested for renewed radical activities in the Michigan copper district, indicted in the Chicago Federal Court and sent to Leavenworth Penitentiary.

FRELINGHUYSEN TO PRESS SEASONAL COAL RATE BILL

Since the Frelinghuysen coal hearings have been covered fully in the Mining Congress bulletins the testimony at these hearings will not be reviewed in the Journal. Senator Frelinghuysen has been made more determined than ever by the developments at the hearings to press his seasonal coal rate bill. It is believed, however, that he will substitute for his original proposition the bill prepared by



SENATOR FRELINGHUYSEN.

a committee of the American Institute of Mining and Metallurgical Engineers. While a great deal of opposition was voiced at the hearing, it is Senator Frelinghuysen's opinion that the witnesses for the most part were presenting only their fears as to what might injure them locally. This he regarded as entirely legitimate and necessary, as the committee would have to know the probable extent of losses which might come in some instances, so as to know whether the prospective benefits and the general welfare were sufficient to justify the action. Senator Frelinghuysen called attention to the fact that the men in the coal industry who are outstanding by reason of their foresight and vision have not appeared against the bill. The Interstate Commerce Commission is unanimous in its approval of the proposal.

DEFENSE COUNCIL ATTEMPTS ANALYSIS OF COAL SITUATION

Present high prices of bituminous coal were characterized as inexcusable on any theory of supply and demand or on any economic principle in a formal statement issued recently by Herbert N. Shenton, secretary of the U. S. Bituminous Coal Commission, which adjudicated the dispute between the soft coal operators and miners. Neither the advice of the commission to buy and store coal early, the requirements of the export trade the status of car service, the daily output of the mines, the weather conditions, nor supposed shortage of supply, explain in any manner the rise in prices, which are out of all relation to the increase in the cost of production caused by higher wages granted by the commission. After reviewing the factors contributing to the sky-rocketing of prices, Mr. Shenton concludes that they will soon decline.

"The present rise in the price of bituminous coal," says the statement, "can in no way be attributed to the campaign for early buying and storage recommended by the U. S. Bituminous Coal Commission to be carried out by the Council of National Defense. The Commission had thoroughly in mind the fact that, owing to bad weather conditions and various other reasons, the removal of fixed prices would doubtless cause a flurry in coal prices for several weeks even after the usual annual drop in consumption of coal.

"The recommendation for the campaign of early buying and storage was that such buying and storage should be urged to commence on or about May 15th when, at the present rate of production, there was reason to believe that production would be in excess of market demand. The plans for this campaign are, therefore, being rapidly developed, and the heartiest co-operation of the largest consumers in the country has been enlisted and pledged.

"There are various causes for the present, and probably very temporary, upward trend in the prices of bituminous coal. Consideration must be given to the fact that there was a rearrangement in the distribution of coal; after April 1st that the first week in April happened to include the low production period always associated with Easter, and that high cost production mines which have for past years been able to operate only because of the fixed price conditions are making a last effort to obtain what they can.

"A widespread feeling has developed throughout the country that there is going to be a scarcity of coal for domestic consumption, owing to the foreign demand. Some persons point to Senator Frelinghuysen's statement of the foreign need for coal. Doubtless a great deal of coal is badly needed in Europe this year, and such as cannot be supplied from

other sources will come from the United States, in so far as it can be shipped; but there are very real limitations to our ability to make foreign shipments, and the present large foreign demand is not likely to be continuous enough to warrant the permanent enlargement of dock facilities and the diverting into the coal trade of a large portion of our merchant fleet.

"In spite of the fact that the fleet which was supplying the American Expeditionary Forces was one of the greatest that the United States has ever gotten together, the total number of short tons conveyed by this fleet to Europe was not in excess of seven and one-half million tons of cargo from our entrance into the war through April, 1919. During 1919 we exported overseas 7,198,000 long tons of coal. This record was better than that of any other year with one exception. During the first 10 months of 1919 we were exporting coal overseas at a greater rate than ever before. It is therefore safe to say on this basis that our coal exports overseas in 1920 cannot exceed 10,000,000 tons, which is only 2 per cent of our total production.

"There seems also to be a misapprehension in regard to production. The weekly reports of the Geological Survey show that in the first quarter of the present year our production was decidedly in excess of the production last year, and slightly in excess of the production under high pressure in 1918. There is, therefore, no reason, based on the past few months, for the sky-rocketing of prices.

"The fear of immediate suffering from car shortage seems also to figure in the reasons for the flurry. There were sufficient cars and motive power to distribute this unusual production of the past few months, on account of careful and energetic car distribution. These cars and motive power are practically all available, and, while there is definite need for more of both in order to stabilize the industry, there is no immediate serious threatening of a car shortage such as has not existed during the winter, unless it is necessary, because of emergencies, to divert coal cars for other purposes. The more open weather conditions, and the efforts to improve allocation of cars by the Car Service Commission of the American Railway Association, give promise of a greatly improved car situation in the near future.

"Frenzied bidding up of prices on the part of coal buyers seems, therefore, at this time to be entirely unjustified. There is no reason to believe that there will be a limited supply of coal for the domestic market or that there will be an increased shortage of cars in the near future, save as it is a part of the general transportation difficulties of the present time. Efforts are being made to stabilize prices through regulations of the Interstate Commerce Commission and by special legislation. The educational campaign for early buying and storage will also tend to stabilize the market."

GEORGE OTIS SMITH AWARDED THE CHARLES P. DALY MEDAL

An exceptional honor was conferred upon Dr. George Otis Smith, the Director of the Geological Survey, when the American Geological Society presented him with the Charles P. Daly medal. In presenting the medal Dr. Greenough, the president of the society, made the following statement:

"The foundation of the medal, which as your president, I am about to present, prescribes that it shall be bestowed for distribution to geographical science, and it is most suitably awarded to our guest in the present instance. The fervent political atmosphere which surrounds the executive offices of our Washington Government tends to obscure from the general public the valuable and original scientific work which is constantly performed by various auxiliary departments whose function, roughly speaking, is the acquisition of knowledge pertaining to the conditions and needs of the peo-

square miles of territory. It involves the topographical survey and mapping of the field, the ascertainment in detail of quantity and character of minerals and other geological deposits, the ascertainment of water supply and power, the publication and adaption of its investigations for use by the departments of the Government and by the public, besides statistical compilations and research in many directions too numerous to enumerate here. My desire is only to outline the extent and value of the contribution thus made to scientific knowledge.

"But I may especially record the patriotic and vital part taken by the Survey in the prosecution of the war. Its honor roll numbers 477, and the work of its geologists, its topographers, its hydraulic engineers and its statisticians found opportunity for invaluable aid to the armies at the front in the various spheres indicated by those titles, which services were acknowledged by citation and decorations by the French authorities as well as our own.

"The organization and control of the vast and complex mechanism which I have attempted to indicate devolved primarily upon its director, who is justly entitled to the first place in the allocation of honor for its achievement. But he would be the readiest to disclaim an exclusive right to credit for results attained by the concerted action of his associates, and I may be permitted to join with his name a public recognition of the works done by Lieut.-Col. Brooks, Lieut.-Col. Marshall, Lieut.-Col. Birdseye, Lieut.-Col. Smith, Major Babley, Dr. Umpleby and Dr. Bastin in the organization of departments of work of special importance to the nation, at home and in France, in addition to Major L. L. Lee, Major J. H. Wheat, Captain A. T. Fowler and Lieutenant Mudd and many others, including topographers and geologists who rendered distinguished service in the field.

"With the cessation of the war the Survey was amongst the first to readjust itself fully to the discharge of its useful function in time of peace. The enormous accession to the industrial development of our country will regard with confidence and pride the conduct of this great bureau under the management of its accomplished director.

"And now, sir, on behalf of the society, I ask your acceptance of this medal. Upon your record of distinguished effort and successful achievement, the aim of all human endeavor, I beg to offer the congratulations of the society and its earnest good wishes for your future health and prosperity."

In replying to Dr. Greenough, Dr. Smith said:

"Recognition of service rendered is always acceptable. Especially am I pleased, President Greenough, that by your mention of my associates you have called attention to the fact that the best public service is truly democratic.



ple of the United States and its adaption to their use in practical affairs. Chief amongst these important agencies is the bureau known for 40 years as the United States Geological Survey, of which our guest has been for many years the administrative head under the title of director.

"The official designation of the Bureau gives a very inadequate impression of the character and extent of the service rendered by it to the nation in its conception of its duties, which are defined as the 'examination of the geological structure, mineral resources and products of the national domain.' It is not easy to grasp the magnitude of such an undertaking as applied to an area so great and varied as the United States, covering more than 3,000,000

The work of a great Federal bureau is not only for the many, it is by the many. Representing here the United States Geological Survey, I feel that the honor your society has accorded me is the greater because it has been won by united effort.

"The service flag that hangs behind my desk is a reminder of the 477 men who wore the uniform of the Army or Navy and whom you just now mentioned as constituting the Survey's roll of honor; and we are proud, too, of the score of citations and decorations won overseas by these technically trained officers, including three French crosses for exceptional bravery at the front. But, sir, there were hundreds of other members of the United States Geological Survey who rendered equally needed service in their civilian capacity; indeed, there were scores of our best men who preferred overseas service, but were commandeered for office or field work as civilians here in the United States. That type of sacrifice also helped win the war.

"It is, Mr. President, in behalf of all these, my associates, that I express my deep appreciation of this honor, and in accepting the Daly medal of the American Geographical Society, I assure you that the work for which the award is made is still in progress. I trust, moreover, our contributors of geographic science may increase in scope and value in the years to follow. And so, I thank you, sir, for this added incentive to future service."

Wastage Allowance on Lead

In response to a request of the Treasury Department, Attorney-General Palmer has rendered a decision to the effect that wastage allowance on lead in ores under Subsection 1, Paragraph n, Section 4, Tariff Act 1913, must be computed on the basis of the amount charged against the bond as determined by the commercial method. The Treasury Department had previously ruled that the commercial assay of lead in ores is the wet assay less $1\frac{1}{2}$ units, but under the Attorney-General's ruling wastage allowance will be established on the basis of the amount charged against the bond as determined by the commercial method.

Mine Depletion Allowance

A lessor of mining property who waived his right to royalties for several years on account of the fact that the mine was operated at a loss and received all of the royalties in the year 1917 may, if he has submitted returns for those years on a cash receipts and payments basis, deduct from the income received in 1917 such depletion allowance as appertains to that income.—*Internal Revenue Ruling.*

SENATE SOON TO TAKE UP EMERGENCY TARIFF BILLS

It is now reasonably certain that the tariff bills will come up in the very near future for action in the Senate. At this writing the Senate is engaged in consideration of the dye-stuffs, which heads the list of emergency tariff measures.

GASOLINE PRODUCTION LAGS BEHIND CONSUMPTION INCREASES

As there appears to be some alarm in the country as to the gasoline situation, due perhaps to a misinterpretation of the facts, Acting Director F. G. Cottrell of the Bureau of Mines, Department of the Interior, has issued the following statement as reflecting the opinion of the petroleum experts of the bureau:

While the gasoline situation appears to be in an acute stage in California, where there was only two weeks' supply in February, this is not now true in any other parts of the country. It is undoubtedly true, however, that due to the much greater increase in the number of automobiles in use today compared with the increase in both gasoline and crude oil from which gasoline is derived, it is possible that the shortage may become serious before the summer of 1920 is over.

The production of gasoline in February of 1920 was about 11 per cent. more than in the corresponding month in 1919, but the number of automobiles and trucks in use was about 25 per cent. greater. While it is anticipated that the production of gasoline will increase materially during the 1920 season through the increased installation of processes which will give higher yield of gasoline from crude oil, it is questionable whether this increase in production will be sufficient to supply the increased demands for the greater number of automobiles and trucks in use, and it is likely that before the summer season is over the situation will become tight, if, indeed, it does not become short.

Stocks of gasoline in February of this year were approximately 563,000,000 gallons, which is equivalent to 50 days' production. In the same month of 1919 gasoline stocks were 458,000,000 gallons, or 45 days' production. February stocks in 1918 were 524,000,000 gallons, or 62½ days' production.

A survey of gasoline marketed in January of this year, as conducted by the Bureau of Mines, showed there had been no material change in the quality of gasoline over the year 1919.

Worthless Oil Lands

If taxpayer purchases royalty interests in tracts of oil land, not including title to the land itself, and such interests prove worthless as evidenced by all wells drilled proving dry or failing after producing very small quantities of oil, the loss sustained is an allowable deduction from gross income.—*Internal Revenue Ruling.*

NAVY PREPARES TO MINE COAL IN ALASKA—MAY SPEND \$1,000,000

It is expected the Navy Department will take over the Chickaloon mine in the Matanuska, Alaska, coal field in July and mine coal for the needs of the Navy on the Pacific Coast. The Interior Department has no further use for this mine, which was opened by the Alaskan Engineering Commission and has offered it to the Navy. If a provision in the Naval bill is approved authorizing the Navy to mine coal in Alaska, the Navy is expected to begin operations when the law takes effect, on July 1.

Col. Frederick Mears of the Alaskan Engineering Commission at Anchorage, who is in charge of building the Government railroad in Alaska, recently asked the Interior Department for a decision as to whether the Navy desired to operate the coal mine at Chickaloon. He said the mine was no longer necessary to the railroad, and unless the Navy contemplated active operations there in the immediate future the mine should be closed and the Interior Department's coal mining operations confined to the Eska Creek Mine to meet the ordinary requirements of the railroad and towns. He referred to a conference on the subject having been had between Assistant Secretary of Interior Vogelsang, Mr. Hallowell and Admiral Coontz.

Secretary of Interior Payne called on Colonel Mears for a report as to the saving per month if coal operations were discontinued by the Department at Chickaloon. Colonel Mears replied that the saving would be \$7300 a month, consisting of \$5600 in salaries and \$1700 for materials.

Secretary Payne offered the immediate operation of the mine to Secretary of Navy Daniels if the Navy would bear the expense of mining until it could begin operations on its own account. Otherwise the Interior Department as a matter of economy would have to close the mine.

Secretary Daniels said an appropriation for the development of Alaskan coal was pending in the Senate and would probably not be available for several weeks, and as the department had no other funds available he requested the Interior Department to continue operations at the mine until the Navy was ready to enter negotiations for the mining or purchase of coal under the appropriation pending in Congress.

Secretary Payne decided that the Interior Department, for reasons of economy, could not continue operation of the mine, and therefore instructed Colonel Mears to close the mine. He said that as the Navy would probably have funds from Congress by July 1 to operate the mine, it would be advisable to use the men at the mine on other work so that they would be later available for the Navy if desired.

Before the House Committee on Naval Af-

fairs, Secretary Daniels said the war had prevented the Navy from investigating coal for the Navy in Alaska. He planned, however, to send a commissioner to thoroughly investigate the subject when Congressional appropriation was available. He submitted a report of a preliminary investigation made by a former commission, under Captain Kittell, in the Matanuska region, which showed there was sufficient coal of navy quantity to warrant definite and active development. The report recommended that the region beginning with the Chickaloon section should be thoroughly and scientifically investigated by mining engineers and geologists, with diamond drilling, shaft-sinking and slope-driving, to ascertain the quality of navy coal and the best method of mining. Leasing units numbers 8 to 15 were recommended to be set aside for us by the Navy. Units 10 and 11 are held by the Chickaloon Coal Co., and unit 12 by the Alaskan Engineering Co. It was said the Chickaloon Co. would probably be willing to give up its lease for a proper consideration. The commission recommended that if the amount of navy coal was found in units 8 to 15, mining be started. It was proposed to mine coal at unit twelve, and to open other mines later, pending development of port of shipment. It was proposed to use Anchorage during open season, including the pier and wharf in process of construction, and the temporary coal loading apparatus which the Alaskan Engineering Commission intends to construct. Anchorage would be permanent shipping port during the open season, and the Navy would erect regular terminals necessary for the shipment of coal.

Another plan proposed was to mine coal and transport it over railroad to Seward, using Seward as a permanent port of shipment. It was recommended that at Seward there be constructed a coaling plant on the Naval Reserve connecting with the railroad, or the construction of a coaling plant on the eastern water front of Seward town site.

A third plan proposed to transport coal from the railroad to Mile 64, building a railroad from Mile 64, a distance of 11 miles, to Portage Bay, on Prince William Sound, and there construct wharves and a coal-handling plant. Coal could then be delivered by railroad direct from the mines to Portage Bay quickly, cheaply and over negligible grades for all-year-round shipment. Mr. Daniels said the Navy could get an abundance of coal in Alaska, and the matter was important, as there was no other coal of navy quality on the west coast. The former investigation, however, was not complete enough to justify a large investment for mining coal, and he proposed to send another commission. The question as to whether the cost of getting out the coal would be prohibitive remains to be seen. While some believe the cost would be prohibitive, he said reports were otherwise. He thought the Interior Department would set

aside sufficient lands to enable the Navy to get this coal. The Secretary concluded by saying that the Navy was practicing economy in the use of fuel. The oil reserves were small, the department had difficulty in getting oil, and the situation would be more serious next year.

FERRO-MANGANESE IMPORTERS REPLY TO CHARGES AGAINST THEM

Crocker Bros. of New York and Frank Samuel of Philadelphia, American sales agents for British concerns, in answers filed with the Federal Trade Commission, deny charges of unfair competition in the importation and sale of ferro-manganese in this country. Jurisdiction of the Commission over the transactions complained of is questioned, and it is alleged the charges are insufficient to constitute a violation of Section 5 of the Trade Commission Act. The answer says that between February, 1915, and January, 1919, ferro-manganese was imported sufficient to enable steel manufacturers of the United States to produce over 28,500,000 tons of open-hearth steel more than could have been produced without it.

As to prices, the answer says that during the first eight months of 1919, owing to the available supply and existing demand for ferro-manganese, the market price in the United States was steadily falling; from time to time, as a result of existing economic conditions, reductions were made; in almost every instance reductions in price were made by domestic manufacturers acting in concert, and the British agents met the prices so made without intent to injure the American industry or monopolizing trade. It says that when the market price for foreign and domestic ferro-manganese in this country had for some time been \$125 per ton, suddenly American producers reduced it to \$110, which the British agents first refused to meet, but finally did. If sales were occasionally made at prices less than the value in England, such sales were neither commonly nor systematically made, but were made in good faith to meet competition and to prevent loss of trade, and without intent of injuring competitors or monopolizing American industry or trade.

In a separate answer Frank Samuel says that during 1915, 1916 and the early part of 1917 this agency imported ferro-manganese under a special license, but never made sales out of stock on hand. At the outbreak of the war they were under contract to deliver 20,000 tons of ferro-manganese. In the face of greatly advancing prices they delivered all that had been sold at a price less than \$100 a ton. They refused to capitalize the necessities of American manufacturers by charging exorbitant prices they could have obtained, and from February, 1915, to March, 1917, never sold ferro-manganese for more than \$200 a ton. The answer says this was a liberal policy in

contrast with that of American manufacturers, who at times charged domestic consumers \$500 per ton. When prices dropped at the end of hostilities the agents cancelled contracts for over 10,000 tons which had been sold at the higher prices previously prevailing, and in a number of other cases adjusted the price to meet changed market conditions. It is charged that American manufacturers insisted on completion of contracts made under war conditions, even though the war had ended.

The answer says the American manufacturers of ferro-manganese are unable to supply the requirements of the steel makers in this country. Denial is made of the charge that the British agents sold the product in America at less than the price in England. It is difficult, if not impossible, to learn the price at which it is sold in England. Dealings in the commodity are not extensive and numerous enough to justify an exchange and immediate dissemination of prices quoted to all parts of the world. Hence the American market is independent of that in England, and the agents say they never know when making a sale whether the price is greater or less than that in England. It is admitted that in some sporadic instances they have sold at a price less than the actual market value or wholesale price at time of exportation. These were exceptional instances. The difference in price was not substantial, but negligible, and were not the result of deliberate design, but were brought about by extreme fluctuations in prices since the war. At present the selling price in this country is greater than that in England.

CONSIDER THE SUSPENSION OF 1920 ASSESSMENT WORK

Despite a very generally held opinion last year that it would not be necessary to have assessment work on mining claims suspended for 1920, the situation in regard to labor and supplies is such as to lead to a very insistent demand that the suspension be made effective for 1920 as well. The matter is now being considered by Representative Garland, the chairman of the Committee on Mines and Mining. Those interested in the matter are requesting that Congress take prompt action in this matter, so they may know, before the summer is over, whether or not they have to do their assessment work. When the suspension is left until late in the year it means that many holders of claims must go ahead with their assessment work, as their property is not available in the winter.

Coal Wholesaler and Retailer

A merchant who sells coal at wholesale on a commission basis and also sells coal at retail from his own yard is engaged in only one business for the purpose of computing the excess profits tax.—*Internal Revenue Ruling,*

INTERNATIONAL MINING CONVENTION ENDORSES MINERALS SEPARATION FIGHT

The Second International Mining Convention, which was held at Seattle, April 7 to 10, was a success from every standpoint. An interesting account of the meeting is given in the issue of April 17 of the *Northwest Mining Truth*, of which Mr. Sidney Norman is editor, and from which we quote:

"Approximately 1000 delegates were present from all parts of the Northwest. The exhibits of machinery, mining supplies and ore samples, collected under the supervision of M. J. Carrigan, chairman of the Hall and Exhibits Committee, were very comprehensive. The ore display from British Columbia constituted a distinct feature of the meeting

"At the first session, Wednesday morning, Glenville A. Collins, chairman of the convention committee, presided, formal addresses of welcome being delivered by Mayor Hugh M. Caldwell and Governor Louis F. Hart. Responses were made by Rt. Rev. P. T. Rowe, Bishop of Alaska; Dr. Edwin T. Hodge, president British Columbia Chamber of Mines, Vancouver; Louis A. Santander, Chilean Consul for Latin America, and Lew G. Kay, Canton, China, for the Orient. All these addresses possessed the merit of brevity and were listened to attentively. The ramraks of the Chinese representative were particularly effective.

"At two P. M. the convention proper got under way, with Dean Milnor Roberts of the School of Mines of Washington University, in the chair. Hon. William Sloan, Minister of Mines for British Columbia, who was scheduled for an address upon the iron and steel resources of the Pacific Northwest, was unavoidably detained at Victoria by official duties. The subject was, however, ably handled by the chairman. The magnesite resources of the Pacific coast were discussed in able papers by Ernest N. Patty, geologist, Washington Geological Survey, and George E. Whitwell, assistant professor industrial chemistry, University of Washington. The subject of refractories was handled in an interesting manner by Hewitt Wilson, professor of ceramics, University of Washington.

"At the conclusion of the day's program delegates were taken by automobiles to the steel plants of Seattle.

"The feature of Wednesday evening's session was the interesting address of T. A. Rickard, editor of the *Mining and Scientific Press* of San Francisco, who traced the romance of mining from Javan, son of Japhet, to the present day.

"Thursday morning's session was devoted to coal resources of the Northwest and petroleum of the Pacific Coast, with Henry M. Parks, director Oregon Bureau of Mines and Geology, in the chair.

"Thursday afternoon was devoted to water-

power resources of the Northwest, J. C. Ralston, engineer of Spokane, reading an able review of conditions and putting forth a plea for greater development of hydro-electric resources of the Northwest.

"Discussion of the gold question was opened by Prof. Vandever Custis, University of Washington.

"Governor Emmet D. Boyle of Nevada, who served as a member of important Washington conferences upon both the gold and silver questions, and who aided in placing the Government price of silver at one dollar an ounce during war times, was the first speaker at the Thursday evening's session. After paying his respects to the economist, who was never a business man, and asking that the former keep to his place as a mere historian and leave the latter to settle purely business propositions, he said:

"I do not believe the payment of a bonus on gold production is practical at this time, but I do believe that if a man sells gold to a manufacturer as a commodity, he has the right to sell that gold at a profit and that the manufacturer should pay a profit. The jeweler now pays the standard price of \$20.67 an ounce for gold, and from information we have been able to gather he sells that gold at an average price of \$145 an ounce. We can not make any sudden change in gold prices. If you are going to prevent disaster, you must not hurry this matter. There will be a readjustment. Gold will go up and prices and wages will come down. It will not be a nose dive, but a safe volplane down to solid earth. We must produce gold to eliminate some of our surplus paper, and as matters are going now there is no doubt that the flow of gold which is to serve our future credits is being cut off at its source, and we are all hoping that this legislation now pending before Congress will afford some relief to the producers."

"John Clausen, vice-president, Union National Bank of Seattle, in a very interesting address replete with statistics, said that the production of gold was of extreme importance to the nation and must be promoted to the fullest extent possible. Unless some relief were given to the producer forthwith many mines would soon be compelled to close down, as many others had already done. He added: 'And at no time has the country so much required the largest possible production of gold. But increasing the value of gold does not necessarily give it a higher purchasing power. On the other hand, the final adjustment seriously disrupts the basis of international credit. To increase this uncertainty by tampering with the standard of international payment would be futile and only make confusion worse confounded. There are those who argue that if

the Government would agree to increase the value of gold from \$20.67 to \$30 to \$40 a fine ounce, it would make a settlement of obligations possible, with only half the metallic requirements otherwise necessary to redeem outstanding paper credits. This course, radical, to say the least, would have a disastrous effect upon all credits and especially reflect upon the cost of living, which, in all probability, would climb to limits beyond the reach of the average citizen.'

"Frank A. Vanderlip, the New York financier, who was passing through Seattle on his way to the Orient, said:

"We have right now more gold in the United States than ever before, and more gold than any other nation in the world. Old world nations cannot hope to return to a gold standard for many years, and with Germany, Austria and Russia it will be almost an impossibility ever to return.

"The rise in prices, caused by inflation of credits, has been one of the greatest social injustices ever worked on the world. Others besides the miners are suffering. The man who had \$1000 in his savings account six years ago could buy \$1000 worth of goods with it. Today if he still has that \$1000 with say \$300 accumulated interest, he will have to add \$1200 to the total to buy what the original \$1000 would have purchased.

"But we cannot find relief by flooding the market with more gold, because under the law that would authorize further inflating, and that in turn would be followed by further increase in prices. Most of our debt has been contracted in dollars that are worth only 40 cents in purchasing power as compared with the 1914 dollar. If we hastily attempt to change our standard and bring down prices, it would mean that we would be paying back 100-cent dollars for the 40-cent dollar of that debt.

"The only relief in sight is deflation, and that must be gradual, because our credits are now in the form of an inverted pyramid, and very unstable. If we make any sudden demands for change, it will greatly endanger our situation and create a very precarious condition that may end in a crash."

The convention adopted several pertinent resolutions, those of widest interest being as follows:

MINERALS SEPARATION, LTD.

"WHEREAS, the American Mining Congress has taken the lead in maintaining proceedings against Minerals Separation, Ltd., its subsidiaries and agents, charging them with stifling and suppressing competition, monopolistic and oppressive practices and violations of the Clayton and Federal Trade Commission Acts, and

"WHEREAS, the mining industry of the United States now and for all future time will be in bondage to Minerals Separation, Ltd., its sub-

sidaries, and its agents, unless the proceeding brought through the Federal Trade Commission is prosecuted to a successful conclusion,

"Now therefore be it Resolved, By mining men of the Northwest, assembled at the International Mining Convention, Seattle, Wash., losses suffered by them in an effort to come April 7 to 10, 1920, that they tender to the American Mining Congress their thanks for its action and offer their unqualified endorsement and tender of support, and

"Be it further Resolved, That copies of this resolution shall be forwarded to the Federal Trade Commission at Washington, D. C., and to the secretary of the American Mining Congress."

PRODUCTION OF WAR MINERALS.

"WHEREAS, the dire need of the United States and Canada for the development of minerals essential in prosecution of war was made evident during the recent conflict, and

"WHEREAS, under the stimulus of this great emergency our resources in such minerals were shown to be sufficient, therefore

"Be it Resolved, That mining men of the Northwest assembled at the International Mining Convention at Seattle, Wash., April 7 to 10, 1920, demand immediate legislation fostering the production of war minerals, that the United States and Canada may be industrially independent both in times of peace and in times of war.

"Be it further Resolved, That copies of this resolution be forwarded to the Secretary of the Treasury of the United States, to members of all United States Congressional delegations from Northwestern States, and the Minister of Mines of Canada, at Ottawa."

TAX ACTS.

"WHEREAS, the Excess Profits and Corporation taxes are difficult and cumbersome to collect and vicious in effect, bearing inequitably and constituting in effect a premium upon inflated capitalization; a penalty upon conservative financing and an incentive to the withdrawal of funds from all investments but those that are tax free; and

"WHEREAS, the operation of these taxes has resulted in serious discrimination against conservative dividend-paying corporations, which have been obliged to retain great sums from earnings awaiting interpretation of the measures by those responsible for their enactment.

"Be it Resolved, That we, mining men of the Northwest, assembled at Seattle, Wash., April 7 to 10, 1920, at the International Mining Convention (Canadian delegates not voting) call for the speedy repeal of these acts and the substitution of taxation measures that will be equitable in their operation and permit of the distribution of corporation earnings upon a fair basis, and

"Be it further Resolved, That this resolution shall be forwarded to the Secretary of

the Treasury and to members of all Congressional delegations from Northwestern States."

WAR MINERALS RELIEF ACT.

"WHEREAS, in Section 5 of the Act of March 2, 1919 (40 Statutes, page 1272), provision was made to repay producers of chrome, tungsten, manganese, pyrites and other war minerals net ply with the requests or demands of governmental agencies mentioned therein, to produce the said minerals required by exigencies of the war and appropriating the sum of eight and a half million dollars therefor; and

"WHEREAS, under certain constructions and limitations now placed upon this law, large numbers of worthy war Minerals Relief claimants are denied the relief intended by the law,

"Therefore be it Resolved, That mining men of the Northwest assembled at the International Mining Convention, Seattle, Wash., April 7 to 10, 1920 (Canadian delegates not voting), strongly urge the immediate passage of legislation now before Congress to provide more liberal administration of war minerals relief act so that the intentions of that act may be carried out with justice, and forthwith.

"Be it further Resolved, That copies of this resolution shall be sent to the Secretary of the Interior, the Secretary of War, the Secretary of the American Mining Congress, Washington, D. C., and to members of Congressional delegations from Northwestern States."

GOLD PRODUCTION.

"WHEREAS, because of a fixed price and rising costs of production the production of gold has fallen from \$101,000,000 in 1914 to \$58,500,000 in 1919, with further decrease evident for 1920, and whereas the uses of gold in the industry and arts consumes all of the gold produced in the United States, plus more than \$20,000,000 of the same metal taken from other than current domestic production,

"WHEREAS, it is vital to the gold industry that the mines be kept in continuous operation, and

"WHEREAS, there is no economic formula which should contemplate production of gold at a loss to the producer for use in the arts and industries,

"Now therefore be it Resolved, That to stimulate gold mining this convention endorses the measure now introduced by Congressman McFadden, chairman of the House Committee of Commerce and Banking in the House of Representatives of the Congress of the United States. This measure in no wise effecting the price or value of gold used for monetary purposes, or limiting the right of the Government to purchase such gold as may be required in its monetary system, but squarely places upon the gold used in the industrial

acts as excise tax to be returned to the producer as a premium to make possible the continued production of gold until deflation and the restoration of equitable conditions prevail.

"Be it further Resolved, That copies of this resolution be sent to the Secretary of the Treasury of the United States, members of all Congressional delegations from Northwestern States and to the Minister of Finance at Ottawa, Canada."

DECREASE IN COAL-MINE ACCIDENTS

A gratifying decrease is noticeable in the number of men killed in the coal mines of the United States during the past six months as compared to the quantity of coal produced, says W. W. Adams, mine accident statistician of the Bureau of Mines.

During July last year, when 221 men lost their lives, the production of coal was over 50,000,000 tons. In January, 1920, the production had increased to 56,000,000 tons, or 11 per cent, while the fatalities, instead of increasing proportionately, actually decreased to 188, or nearly 15 per cent. Nor is this decrease a mere accident or coincidence peculiar to the month of January, as may be seen from the following table:

Production (short tons)	Men killed.	No. killed per million tons.
July, 1919....50,501,000	221	4.38
Aug, 1919....50,805,000	223	4.39
Sept, 1919....54,735,000	179	3.27
Oct, 1919....64,702,000	243	3.76
Nov, 1919....26,389,000	94	3.56
Dec, 1919....44,527,000	169	3.80
Jan, 1920....56,043,000	188	3.35

From the figures shown above it may be observed that the average monthly production for January and the five months immediately preceding, was 49,500,000, or only 2 per cent below that for July, while the average number of men killed was 183, or a decrease of over 17 per cent.

The Geophone

The geophone is an instrument invented by the French during the war to detect, through the earth, the sapling and underground mining operations of the enemy. It was improved by the United States Engineers, and more recently has been further improved by the Engineers of the United States Bureau of Mines, and its use in connection with special sounds has been developed.

The instrument, though small, is essentially a seismograph, since it works on the same principle as the ponderous apparatus by which earthquake tremors are recorded.—Bureau of Mines.

READING COMPANIES ARE DISSOLVED BY ACTION OF U. S. SUPREME COURT

In dissolving the various Reading companies some interesting points were made in the opinion handed down by the United States Supreme Court. Extracts from the opinion are as follows:

"These are appeals from a decree entered in a suit instituted by the Government to dissolve the intercorporate relations existing between the corporation defendants, for the alleged reason that through such relations they constitute a combination in restraint of interstate commerce in anthracite coal, and an attempt to monopolize or a monopolization of such trade and commerce in violation of the first and second sections of the Anti-trust Act of Congress of July 2, 1890 (26 Stat. 200), and also for the alleged reason that the defendants, by transporting over their lines of railroad, in interstate commerce, coal mined or purchased by coal companies with which they are associated by stock ownership.

"It will contribute to brevity and clearness to designate the defendant corporations as follows: Reading Company, as the Holding Company; Philadelphia & Reading Railway Co. as Reading Railway Co.; Philadelphia & Reading Coal and Iron Co., as Reading Coal Co.; Central Railroad Co. of New Jersey, as Central Railroad Co.; Lehigh & Wilkes-Barre Coal Co., as Wilkes-Barre Company; Lehigh Coal & Navigation Co., as Navigation Company.

"Practically all of the anthracite coal in this country is found in northeastern Pennsylvania, in three limited and substantially parallel deposits, located in valleys which are separated by mountainous country. For trade purposes these coal areas are designated: the most northerly, as the Wyoming field, estimated to contain about 176 square miles of coal; the next southerly, as the Middle or Lehigh field, estimated to contain about 45 square miles, and the most southerly, as the Schuylkill field, estimated to contain about 263 square miles of coal.

"The annual production of the mines in these three fields in 1896 was about 43,640,000 tons, and in 1913 it slightly exceeded 71,000,000 tons. The chief marketing centers for this great tonnage of coal are New York, distant by rail from the fields about 140 miles, and Philadelphia, distant about 60 miles. From these cities it is widely distributed by rail and water throughout New York and New England, and to some extent through the South.

"Such a large tonnage was naturally attractive to railroad carriers, with the result that the Wyoming field has six outlets by rail to New York harbor, viz: The Central Railroad of New Jersey and five others, known as initial anthracite carriers. The Lehigh field has three such rail outlets, but the largest,

the Schuylkill field, has only two direct connections with Philadelphia and New York, viz: The Reading and the Pennsylvania railroads. Outlets by canal to Philadelphia and tidewater, at one time important, may here be neglected.

"This description of the subject-matter and of its relation to the interstate transportation system of the country will suffice for the purposes of this opinion.

"The essential claims of the Government in the case have become narrowed to these, viz:

"First: That the ownership by the Holding Company of controlling interests in the shares of the capital stocks of the Reading Railway Co., of the Reading Coal Co. and of the Central Railroad Co. constitutes a combination in restraint of interstate trade and commerce, and an attempt to monopolize and a monopolization of a part of the same in violation of the Anti-trust Act of July 2, 1890.

"Second: That the Holding Company in itself constitutes a like violation of the act.

"Third: That certain covenants and agreements between the Central Railroad Co. and the Navigation Company contained in a lease, by the latter to the former, of the Lehigh & Susquehanna Railroad, constitute a like violation of the act.

"Fourth: That the transportation in interstate commerce by the Reading Railway Co. and by the Central Railroad Co., of coal mined or purchased by the coal companies affiliated with each of them constitutes a violation of the commodities clause of the Act to Regulate Commerce.

"We are brought to the consideration of what the decree shall be with respect to the really important defendants in the case, the three Reading companies, the Central Railroad Co. of New Jersey and the Wilkes-Barre Coal Company.

"Before the reorganization of 1896 the gathering of more than two-thirds of the acreage of the Schuylkill field into the control of the two Reading companies was, as their reports show, for the frankly avowed purpose, then not forbidden by statute, of monopolizing the production, transportation and sale of the anthracite coal of the largest of the three sources of supply.

"When in 1896 the problem was presented of reorganizing the financial affairs of the two companies, it was not solved, as it might have been, by creating separate coal and railroad companies to conduct independently interstate commerce in the two departments to which their railroad and coal properties were adapted, but, on the contrary, and very obviously for

the purpose of evading the provision of the constitution of Pennsylvania prohibiting any incorporated common carrier from, directly or indirectly, engaging in mining "articles" for transportation over its lines (Constitution of Pennsylvania, 1874, Art. 17, Sec. 5), and also of evading the provisions of the Federal Anti-trust Act against restraining and monopolizing interstate commerce, resort was had to the holding company device, by which one company was given unrestricted control over the other two, with the power, inherent in that form of organization, of continuing and carrying forward the restraint and monopoly which had previously been acquired over that large volume of interstate commerce which was to be conducted by the coal and railroad companies.

"Again, when in 1901 a rivalry, imaginary or real, arose for the control of the Central Railroad Co., the Holding Company, regardless of the law, did not hesitate to purchase control of that great competing anthracite coal-carrying system, with its extensive coal owning and mining subsidiary. This acquisition placed the Holding Company in a position of dominating control not only over two great competing interstate railroad carriers, but also over two great competing coal companies, engaged extensively in mining and selling anthracite coal, which must be transported to interstate markets over the controlled interstate lines of railway.

"Again, and obviously, this dominating power was not obtained by normal expansion to meet the demands of a business growing as a result of superior and enterprising management, but by deliberate, calculated purchase for control."

NOTES FROM THE EXPERIMENT STATIONS OF BUREAU OF MINES

Notes from the Mining Experiment Stations of the United States Bureau of Mines are as follows:

Salt Lake City Station—In carrying on the smoke investigation, over 500 samples of atmosphere were taken at different points throughout the city for SO₂ determinations during March, and samples were taken almost daily of the atmosphere for total solids and various gases.

Oshorn Monnett, in charge of the smoke investigation, spent the last week in March at the station. The investigation will be finished within the next two months.

Pittsburgh Station—Superintendent E. A. Holbrook in February visited the Mining Department of Mass. Inst. of Technology and Harvard University with representative from the Carnegie Institute of Technology to gain ideas in connection with the construction of the contemplated coal preparation laboratory in the co-operative department in mining engineering at Carnegie Tech.

San Francisco Oce—Among the visitors

during March was R. N. Buell, who has been engaged by the Australian Government to supervise installations for the use of powdered coal in that country. Mr. Buell did a considerable amount of co-operative work with the bureau at the time of the war, when demonstrations on the use of powdered coal were made in San Francisco under the direction of the U. S. Fuel Administration.

Capt. George H. Cressler, Army Ordnance Department, was also a visitor. Captain Cressler has been in charge of the Government's toluol plants at Los Angeles and Richmond, California, and is at present winding up the work in connection with these installations.

A great deal of interest has been shown during recent months by the public generally in the prospective oil shale developments in the United States.

Berkeley Station—On March 26 Superintendent L. H. Duschak gave a talk to the California Section of the American Chemical Society on "The Chemical Basis for the Extraction of Silver from its Ores by the Volatilization Process."

B. O. Pickard, District Engineer, reported for duty at Berkeley on March 16.

Seattle Station—Oliver C. Ralston arrived at Seattle March 17 to enter upon active duty in capacity of superintendent.

E. W. Widdewson of the British Columbia Department of Mines visited the station in March relative to powdered coal problems.

J. G. Schoning, in charge of the Mine Safety Station, spent the first week of March in field training, mine rescue and first aid, with Bellingham Coal Mines Co., Bellingham, Washington, after which he was called to assist in mine fire with Car 5 at Mullen, Idaho. While in Idaho an unusually large group was started on training at Burke. Mr. Schoning returned to Seattle the latter part of the month, and will resume field training in the State of Washington shortly.

Minneapolis Station—Superintendent C. E. Julihn was appointed District Engineer for the Lake Superior District, the work of which he will supervise in addition to the work of the Experiment Station at Minneapolis.

Superintendent Julihn accompanied Assistant Director F. G. Cottrell and Guy E. Ingersoll to Duluth, Minn., for a conference with mining officials, and to Houghton, Mich., for the purpose of discussing Lake Superior District matters with local officials.

Golden Station—Supervisor of Stations D. A. Lyon visited the station on March 1 and 2 with O. C. Ralston, the new superintendent of the Seattle Station.

E. A. Colburn, one of the inventors of the Colburn Flotation Machine, visited the station on March 7. Mr. Colburn has recently presented us with one of his machines.

Kjell Lund, of Kristiania, Norway, repre-

senting the Norwegian Bureau of Mines, called at this station during the month.

D. Harrington spent the latter part of the month at Salt Lake City in conference with the Western car engineers and surgeons in connection with the dust and ventilation investigations.

Dr. Victor C. Alderson has been re-elected President of the Colorado School of Mines for a term of two years. Dr. Alderson was also granted leave of absence by the trustees in order that he might make a trip to Scotland to study the oil shale plants in that country.

Robert M. Keeney, director of the experimental mill of the Colorado School of Mines, has returned from York, Pa., where he constructed an electric furnace plant for the York Ferro-Alloy Co.

Dr. John A. Barrett, director of the Pan-American Union, Washington, D. C., will deliver this year's commencement address at the Colorado School of Mines on May 10.

The new catalog edition of the Colorado School of Mines Quarterly discloses the fact that out of all the foreign students registered in the colleges of Colorado more than half are registered in the School of Mines. It also discloses that the school has the largest membership in the American Institute of Mining and Metallurgical Engineers of any institution in the world.

GLOSSARY OF MINING TERMS NOW BEING DISTRIBUTED

The mining industry has long felt the need for a comprehensive, thorough and complete glossary of the terms used in its various branches. This requirement has been met recently by Albert H. Fay, mining engineer, U. S. Bureau of Mines, author of Bulletin 95, "A Glossary of the Mining and Mineral Industry," which contains about 20,000 terms and nearly 30,000 definitions covering all phases of coal and metal mining, quarrying, metallurgical plants, coke ovens, oil and gas wells, geology and mineralogy.

The words are arranged alphabetically in true dictionary style, there being no industrial grouping. Only one glance is necessary, therefore, to find any desired term. The type and style of composition are such as to render it easy to find the word and read the definition.

A cursory glance through the 754 pages reveals years of research and painstaking study in preparing, assembling and co-ordinating the definitions from many and varied sources and inserting proper cross-references. The scope of the work includes all English-speaking countries, as well as much that is Latin-American. Usually the name of the State, province or country is given showing where the more provincial terms originated or where they are extensively used.

In most cases the name of the author quoted is given in parenthesis at the end of the definition, thus making it possible to trace the term

back to the publication in which it previously was defined. The use of the author's name has possibly resulted in some variations of syntax, as in general, too much alteration would not be permissible, and still quote the definition. About 150 authors are quoted as indicated by the list of publications cited, 100 of which publications contained glossaries relating to some phase of the mining industry.

The glossary contains many words that are more or less obsolete, and this feature may be considered an advantage rather than a detriment, as the older literature contains many terms that are not now current. The scientist engaged in research work is always glad to know where the older terms are properly defined. This feature of the glossary is highly commendable.

Some of the terms that have figured in mining litigation, as, for example, "abandonment and forfeiture," "apex," "fissure," "lode," "vein," and scores of others, have been given special attention, a number of similar but slightly different interpretations being given and many court cases cited wherein the decisions were rendered. These court citations, in addition to definitions from other sources, add much to the value of the publication from a legal standpoint.

The large number of Spanish, Mexican and South American terms makes the book doubly valuable for engineers and others engaged in the mining industry of our sister Latin-American republics.

Surtax on Sale Deposits

Where individuals transfer property to a corporation which later demonstrates the principal value of such property as oil-producing property "by prospecting or exploration and discovery work" and then dissolves, transferring the property to the individuals, who remain stockholders, without change in interests, and such stockholders sell the property, the portion of the surtax attributable to such sale is not limited to 20 per cent. of the selling price of such property or interests under Section 211-b.

Where trustees of assets of an oil company sell mine, oil and gas wells, where the principal value of the property has been demonstrated by prospecting or exploitation and discovery work done by said trustees, Section 211-b is applicable in computing tax upon income from such property held in trust. Such income being taxable to trustees as an entity is free from tax when distributed to beneficiaries.—*Internal Revenue Ruling.*

Browning Resigns

L. J. Browning has resigned as assistant valuation engineer of the mines and mineral section of the income tax unit of the Treasury Department to engage in field work in Canada. He was presented with a brief case and tendered a dinner by his associates.

EMPLOYEE REPRESENTATION IN MINING ENTERPRISES

T. T. REED, U. S. Bureau of Mines.

Employee representation in the management of large mining enterprises was first introduced in organized form by the Colorado Fuel and Iron Company in 1915. Within the past few years a number of the larger mining enterprises have introduced similar systems and there is growing interest in the subject. This will be stimulated by the final report of the President's Second Industrial Conference, in which the following statement occurs:

"The Conference finds that joint organization of management and employees, where undertaken with sincerity and good will, has a record of success. The general principles governing such organizations are stated at length under the title 'Employee Representation.' It is not a field for legislation, because the form which employee representation should take may vary in every plant. The conference, therefore, does not direct this recommendation to legislators, but to managers and employees.

"If the joint organization of management and employees in the plant or industry fails to reach a collective agreement, or if without such joint organization disputes arise which are not settled by existing agencies, then the conference proposes a system of settlement close at hand and other Governmental encouragement, and a minimum of regulation. The entrance of the Government into these problems should be to stimulate further co-operation."

A brief statement regarding the plans that already are in force and a list of references to more complete discussions of the matter will be of service to the mining industry. There are four typical systems of employee representation in industry, which may be designated by the names by which they are commonly known as:

1. "The Colorado Plan."
2. "Industrial Democracy."
3. Works Council (Whitley).
4. Modified System of Works Councils.

Of these the second two have been the more popular in England. The following discussion will be limited to the first two, since detailed discussions of the second two plans may be found in the series of industrial reports of the British Ministry of Labor, and a brief summary will be found in the report of the Employers' Industrial Commission on British Labor Problems, published by the United States Department of Labor in 1919.

The plan of organization adopted by the Colorado Fuel and Iron Company and the agreement entered into between the company and the men may be found in "Colorado Industrial Plan" by J. D. Rockefeller, Jr., pub-

lished in 1916. It has been summarized by Mr. Rockefeller in an address before the Civil and Commercial Club of Denver as follows:

The first feature of the plan is that representatives are chosen annually from the employees by their fellow-workers by secret ballot. The representatives hold conferences at least three times a year with an equal number of officers of the company. There are in each mining district or division of the steel plant, standing committees, of three employees and three officers of the company, on Co-operation and Conciliation; Safety and Accidents; Sanitation, Health and Housing and Recreation and Education. The President's Industrial Representative has the duty of visiting all the mines and divisions of the steel plant and confers with the representatives of the employees, being available for conferences at any time at the request of the representatives.

The second feature of the plan is the employee's right of appeal to carry any matter to his representative, and in the event of failure to reach an adjustment, to the President's Representative, the District Committee on Co-operation and Conciliation, the District Manager, the Manager or Assistant Manager, the General Manager, the President, and as a court of last appeal to the Industrial Commission of the State of Colorado.

The third feature of the plan is the employee's bill of rights, covering such matters as the right to caution and suspension before discharge, the right to hold meetings outside of working hours, the right to membership non-membership in any society or organization, etc.

E. S. Cowdick, assistant to the President, Colorado Fuel and Iron Company, in a recent address stated, that the period of probation of the plan is over, it already having paid satisfactory dividends in better efficiency. He attributes the lack of violence last fall to the Employees' Representation Plan.

Somewhat similar plans have been adopted by other large companies, notably the Midvale Steel and Ordnance Company, the Standard Oil Company, the Consolidation Coal Company and a number of others. The Midvale Company adopted Employee Representation October 1, 1918, and the details of the method are given in a booklet published by the company. The annual report of the company for 1919 states that in the strike last fall there was no interruption of work at one plant, at another operations were curtailed for only about a week, and at a third, the plant was shut down for seven weeks. The report states:

"While we of course were disappointed at the failure of our efforts to establish such relations as would prevent any such interrup-

tion to our operations, we are not discouraged by this experience. The January elections as provided in the plan of representation were held as usual and the plan is now functioning in a satisfactory manner." The details of the plan adopted by the Standard Oil Company and the results so far obtained in practice have recently been described by Mr. E. J. Hicks in a paper before the American Institute of Mining Engineers.

In the annual report of the Youngstown Sheet and Tube Company the president, James A. Campbell, states that the company is entirely satisfied with the employee representation plan in effect during 1919, faith in it not having been lost because of the strike. The systems used by the different companies differ a good deal in detail, and this one is unusual in providing that if the employees representatives and the management fail to agree each shall choose an arbitrator, these two to choose a third. The decision of the arbitrators is to be final and binding. It has not been necessary to utilize this provision.

The second type of plan developed by John Leitch is based on the form of government of the United States and has therefore the marked advantage of being fairly well understood by all the men who have had any school training in the study of government. It also derives an advantage through the prestige attaching to the Government of the United States. This plan in brief consists of a House of Representatives made up of representatives elected from each department, the basis of apportionment of representatives being so chosen as to give the House a workable size. The Senate is composed of the department heads and the general superintendent and manager. Both the House of Representatives and Senates hold weekly meetings at which are discussed various questions relating to living conditions, hours of labor, wages or any question relating to the operation of the company. The House recommendations are handed on to the Senate for its consideration. This plan was adopted by the American Zinc Company, Mascot, Tennessee, in May, 1919, and the company reports that the plan has been operating satisfactorily, and both the management and the employees are pleased with the results to date.

It would appear that one of the principal factors in the successful operation of such plans is to determine what matters are within the proper field of these joint committees. It can readily be understood that matters regarding the management of operations might be brought up for discussion that the management might be unwilling to admit as proper subjects for action by the employees. The provision in the Youngstown plan for arbitration covers this point. It is probable that as more experience is gained in the operation of such plans this and other matters that are as

yet undefined will become matters of general agreement.

Many of the most useful articles on this subject have appeared in technical and other journals, and those interested will economize in time and effort by making use of the reference lists on this subject prepared by the Russell Sage Foundation, 130 East Twenty-second street, New York, and by the Public Affairs Information Service, 958 University Avenue, New York. In places where reference libraries are available the reference librarian is usually able to provide similar lists of references.

WAR MINERALS BILL AWAITS ACTION BY RULES COMMISSION

The Rules Committee of the House of Representatives at the time of this writing had not found an opportunity to hear Representative Garland, the chairman of the Committee on Mines and Mining, in regard to the War Minerals Relief Bill. Mr. Garland has been seeking a hearing for several weeks in the hope that he may persuade the committee to give him a rule which would allow consideration of the bill in the near future.

The bill as originally approved by the Committee on Mines and Mining and as it was introduced in the House did not meet with the approval of the majority leaders. They objected on the ground that a new investigation of war mineral claims by the Court of Claims would involve more expense than was justified. The committee then altered the bill so as to do away with the new investigations on the part of the Court of Claims. If the court were to use the evidence submitted to the War Minerals Relief Commission, it is believed that little expense would be involved.

The committee also agreed upon other changes particularly which would relieve claimants from giving bond for the amounts already paid them on their claims.

Mr. Garland is continuing his efforts to secure a hearing before the Rules Committee.

The War Minerals Bill, identical with the bill introduced in the House by Mr. Garland, has been introduced in the Senate, but no action will be taken there, it is expected, until the House has indicated its intention to consider the legislation.

Payment of Tax at Source

If the owner or operator of a mine leases a portion to a contractor whose operations are separate and distinct from that of the owner or operator, and non-resident aliens are actually employed by the contractor, the duty of withholding as to such non-resident alien employees is that of the contractor, and not the owner or operator.—*Internal Revenue Ruling.*

GENERAL ASPECTS OF THE LEASING LAW

JAMES R. JONES, Law Examiner, Bureau of Mines.

The General Leasing Law, which provides for the leasing of deposits of coal, oil, oil shale, gas, phosphate and sodium in public lands, was approved February 25, 1920.

One of the outstanding features of this legislation is the fact that it opens for prospecting and exploitation lands and deposits which have been withdrawn from public use, some of them for several years, pending enactment of legislation better fitted to control the mining and utilization of the particular mineral deposits referred to. These lands are not only made available to the public, but they are opened up under a system which defines better than was ever done in the past the rights which may be acquired under it.

The oil operator, for example, under this legislation will know definitely the extent of the rights he has acquired, as well as the legal conditions under which his expensive drilling and other work of exploration are to be conducted. No longer will he be harassed by the possibility that while he is spending his capital in drilling operations in an effort to make a discovery of oil, his legal rights may be contested, in which event the superiority of his claim can only be upheld—if at all—after long and expensive litigation. By the same token the coal operator will now be free from the embarrassing restrictions of the old coal land laws respecting the amount of such land which may be purchased by one person.

At the same time that these advantages are being enjoyed by the operators, the public will be guarded against wasteful methods of drilling and mining the oil and gas, and coal deposits, and the other mineral substances enumerated in the act, to the end that these products of nature, which cannot be replaced, may be utilized with a minimum of loss.

Persons who desire to prospect for deposits of oil and gas, in land which is not within any known geological structure of a producing oil and gas field may, by putting up a monument and notice of the kind prescribed by the regulations, obtain an exclusive right for 30 days, or six months if in Alaska, to take out a permit covering not more than 2,560 acres, which permit in turn will enable the permittee to hold the exclusive right to explore for oil in the land in question for a period of two years, or four years in Alaska; and if a discovery be made, they may obtain a lease of one-fourth of the area covered by the permit (but will not be limited to less than 160 acres, if there be that much land reserved by the permit), at a royalty of five per cent, and they will be pre-

ferred in the leasing of the remainder of the area.

This system of allowing a reasonable time in which to carry on the expensive work of exploration so often advisable in searching for minerals applies likewise to coal and sodium, except that no provision is made for reserving the ground previous to the granting of the permit.

With the exception of certain claims initiated under pre-existing law, the size of an oil and gas lease is limited to 640 acres and one person or organization may not hold more than three oil or gas leases in one State, nor more than one such lease within the geological structure of the same producing oil and gas field. The maximum size of the coal, phosphate, and sodium leases is 2,560 acres, and not more than one such lease may be held by the same party in any one State. An exception is made to this limitation in the case of common carrier railroads, which are allowed one coal lease for every 200 miles of trackage. Leases are limited to citizens of the United States, or to any association of such persons, or to any corporation organized under the laws of the United States, or of any State or Territory thereof; but municipalities are specifically enabled to take leases for coal, oil, oil shale and gas. A citizen of another country is not permitted to own, either by stock ownership, stock holding or stock control, any interest in any lease acquired, unless his country accords similar or like privileges to citizens of the United States.

Lessees are permitted to combine their interests to the extent necessary to construct and conduct a refinery, a common carrier pipe line, or lines of railroad to be operated and used by them jointly in the transportation of oil from their several wells or from the wells of other lessees under the Act, and such combination is also permitted in order to build and operate railroads for the transportation of coal.

Individuals and associations of individuals are permitted, under such rules and regulations as the Secretary of the Interior may provide, to mine coal for their own use, but not for sale, without payment of royalty. Municipal corporations are accorded a like privilege, on condition that they sell the coal at cost.

The Act provides for easements for tunnels and such other easements or rights of way upon, through, or in the lands leased as may be essential to the proper working of the deposits or the treatment and shipment of the products.

The working of our oil shales is encouraged by the fact that a lease of 5,120 acres of such a deposit may be obtained and the Secretary of the Interior is authorized to

waive the payment of royalty during the first five years of the development of such a lease. This latter provision is also made for the encouragement of the production of petroleum in Alaska, and it is further provided that leases in Alaska, whether as a result of prospecting permits or otherwise, shall be upon such rentals and royalties as shall be fixed by the Secretary of the Interior.

In the interest of workmen an eight-hour day has been stipulated except under extraordinary circumstances; the employment of boys under 16 years of age below the surface has been forbidden; and provision has been made for the fair weighing of coal; while the public at large will have a special interest in the stipulations that the product mined under any lease shall be sold to the United States and to the public at reasonable prices, and that the land, deposits and output shall not be controlled by unlawful trusts in restraint of trade.

Provision is also made for the settlement of controversies growing out of the location of claims under previously existing laws.

With the exception of moneys accruing from naval petroleum reserves, or from Alaska, 770 per cent of the royalties for past production and 52½ per cent for future production will become a part of the Federal Reclamation Fund; while 20 per cent. for past production and 37½ for future production will be placed at the disposal of the legislatures of the several States within the boundaries of which the leased lands or deposits may be located, to be used for the construction and maintenance of public roads, for public schools, or for other public educational purposes.

From the foregoing it will be seen that the opening of these lands, coupled as it is, with provisions for expending the royalties accruing from their exploitation in the States where the lands are situated, will give an impetus to business conditions in those States the extent of which can hardly be foreseen at present.

AT PRESENT CONSUMPTION RATE

U. S. HAS 18 YEARS' OIL SUPPLY

The latest figures on the world's oil supply given out by the United States Geological Survey, Department of the Interior, show that the foreign countries are using only half as much petroleum as the United States, but have seven times as much oil in the ground.

These countries are now using about 200,000,000 barrels of oil yearly, but they have resources large enough to last over 250 years at this rate of consumption. In striking contrast are the production figures for the United States, which at the present rate of more than 400,000,000 barrels a year, has only an 18 years supply. In other words, the United States is using up its own oil supply fourteen times as fast as the rest of the world.

The general distribution of the world's supply of "oil in sight" was shown on a map published by George Otis Smith, Director of the Geological Survey, in the February issue of the National Geographic Magazine, to which added data are now given on a map illustrating an article by David White, Chief Geologist of the Geological Survey, now being printed in the May issue of the *Annals of the American Academy of Political and Social Science*. Mr White has drawn largely on data prepared by Eugene Stebinger, Chief of the Foreign Minerals Section of the Geological Survey, whose estimates represent several years' works in reviewing and compiling the available data as to the geology, the oil indications and the results of explorations in all parts of the world. Not counting oil to be obtained from shales and other retortable materials by distillation, the world's supply of recoverable petroleum amounts to as much as 60,000,000,000 barrels. Of this amount, 43,000,000,000 barrels may be regarded as oil more or less definitely "in sight," as shown by actual drilling with successful results. The remainder covers the available oil which it is believed will be found in other regions in which oil seeps, asphalt deposits or favorable geologic conditions point to oil, although no producing wells have yet been drilled. Of this great amount, which is thirteen times the oil already taken from the ground in America and about eight times all the petroleum yet produced in the world, 7,000,000,000 barrels only, in round numbers, are believed to be left in the United States and Alaska, the remaining 53,000,000,000 being in foreign countries.

It is noteworthy that this supply is nearly equally divided between the old world and the new, the Americas having a total very close to that of the remaining continents. However, as in the case of coal, much more oil will be developed north of the equator than to the south.

Fortunately, it is simply impossible to discover and take out the oil remaining in the ground in the United States—7,000,000,000 barrels—in so short a period as 18 years. Instead of mining our petroleum so rapidly, we must either depend more and more on oil from other sources or get along with less oil. Our children will doubtless do both.

Radicals Busy at Butte

Reports to the Labor Department state that if something is not done to protect workers, mines will be forced to close down and work will be stopped at Anaconda and Great Falls, Mont., thus putting twenty thousand men out of employment, due to the agitation of radicals. Thomas Barker and Hywel Davies, Commissioners of Conciliation of the Labor Department, state that the I. W. W. through its activities are menacing loyal members of the American Federation of Labor from living up to their contracts.

COLLOIDAL FUEL ATTRACTS ATTENTION OF WAR DEPARTMENT

The Regular Supplies Division, General Supplies Branch, War Department, is considering the conducting of tests on *Colloidal Fuel*. This is a mixture of coal finely ground into fuel oils by suspension of the small atoms of coal in the oil. The fuel is liquid in form, and is also produced in a jelly substance or a thick and unctuous paste. Colloidal embraces a whole new series of fuels; one of the series is free flowing with 69 per cent. of oil and 30 per cent. of powdered coal, the enabling fixateur being not more than 1 per cent. The fixateur or reagent keeps the powdered coal in suspension in the liquid oil, preventing the settling in the bottom of the container. Another of the series is approximately 40 per cent. coal and 50 per cent. oil. Another is almost 75 per cent. coal. Colloidal will move with pressure into pipes and will atomize readily. Any furnace equipped for oil can be used without alteration for Colloidal Fuel. Once mixed, the solid particles remain in suspension for months, and after occasional stirring the fuel is given back its original combustion properties.

It has the unique property for a fuel that although liquid, it is heavier than water; poured on water into a container, it sinks. Water put on the top becomes a seal against combustion without affecting or entering into the composition of the mixture. This permits storage for an indefinite period under water. It can also be sealed and stored on a ship or in a warehouse free from danger of fire accidents. Upon exposure to the air or sunlight, there is no danger of spontaneous combustion. Based upon its ultimate heating energy, the cost should be less than either coal or oil.

The material, reduced to a paste form and put up in bricks, may be adapted for field rolling kitchens or for army cooking and heating in ranges and tent stoves.

Consideration is also being given to the use of alcohol for a fuel. The process is in operation at the Hammermill Paper Co., Erie, Pa., for the production of alcohol from the waste liquor from paper mills. Based upon a yield of 1 per cent. of the waste liquor, there is obtained an average of 18 gallons to a ton of pulp. The production of alcohol for fuel is steadily growing in the United States, and from commercial processes alcohol can be produced from sugar beets, beet molasses, potatoes, waste sulphite liquor from paper mills, fruit waste, black-strap molasses from sugar refineries, sawdust and wood pulp. Although the present price of alcohol is rather high, the development of fuel alcohol on a large scale will materially reduce the price, especially where it is obtained from otherwise waste products.

PERSONAL.

D. A. LYON, chief of the Mining Experiment Station section of the Bureau of Mines, recently delivered a lecture on "Recent Progress in the Metallurgy of Non-ferrous Metals" before the Franklin Institute of Pennsylvania.

FRANK J. DWYER, who has for a number of years been the assistant purchasing agent of the American Smelting and Refining Co., has resigned his position to take the position of assistant to J. K. McGowan of Guggenheimer Brothers.

DR. A. W. STICKNEY, geologist, and H. D. T. REYNOLDS, American citizens employed by a London firm, who were said to have been captured by the Bolsheviks at Novo Nikolaevsk, are in the Altai district of Siberia, safe and undisturbed by the Bolshevik authorities, according to a dispatch received by the Department of State from the American Consul at Harbin. This information was given the American Consul by Colonel Blunt of the Russian Railway Service Corps.

HARVEY BASSLER, who has held a temporary appointment in the Geological Survey since 1911, while a student at Johns Hopkins University, has joined the permanent staff of the survey as assistant geologist and has been assigned to field work in the Virginia river oil field of Utah.

WILLIAM YOUNG WESTERVELT, consulting mining engineer, has removed his office to the Fifth Avenue Guaranty Building, 522 Fifth Avenue, New York city.

Geophone in Rescue Work

The Bureau of Mines has conducted an investigation to determine the conditions of operation under which the geophone will give the most satisfactory results when used for rescue and survey work in both metal and coal mines.

In coal mines it has been determined that the geophones should rest on a solid shelf of coal or on the floor of a niche cut into the coal. The floor of the mine is likely to be covered with dirt, and is very seldom solid enough to transmit sound well. In metal mines the geophones will, of course, be held against or placed upon the natural rock. If the geophones are held with the hands against the coal, vibrations are set up by the circulation of the blood within the hands that greatly interfere with successful observations. On the other hand, the rock appears to withstand these vibrations, and successful results can be obtained by simply holding the instruments in place upon the rock.—Bureau of Mines.

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METHODS OF STORING COAL AT PEARL HARBOR PLANT

The coaling plant located at the U. S. Naval Station, Pearl Harbor, Hawaii, has a maximum capacity of approximately 200,000 short tons of bituminous coal, stored in a concrete basin to a depth of 25 feet, and is provided with a flooding system so that coal can be flooded to a depth of 17 feet in water to avoid heating, this 17 feet being the height of the inclosing walls of the basin. The capacity into storage is 200 tons per hour and out of storage 400 tons per hour.

The method of handling coal is as follows: Coal is received over wharf approximately 450 feet long by means of hoisting towers, which towers deliver coal to railroad trains operating on standard gauge track the same delivered coal to the basin which is approximately 760 feet long by 450 feet wide, being served by six

parallel lines of railroad track over which the trains deliver coal to the basin. Coal is reclaimed by locomotive cranes operating on one of a pair of the three sets of parallel tracks delivering coal into trains which carry the coal to the face of the wharf and dump through chutes into ships or barges.

The plant is provided with a flooding system substantially as follows: The basin is so designed that it can be divided into eight separate compartments, each compartment being served by three or four 10-inch mushroom outlets through which water is forced into the basin by 14-inch centrifugal pump of 5000 gallons per minute capacity, under a 40-foot head and driven by a 75-horse power, 2200 volt, 900 R. P. M. induction motor, located near the water-front. This pump receives salt water from the river through a 16-inch suction pipe and discharges through the manifolds into the basin by means of the 14-inch delivery pipe. The suction pipe extends some distance out under the approach wharf, and has a foot valve placed four feet below mean low water, so that there will be no doubt as to the supply of water. The 16-inch line is reduced at one corner of the basin to a 12-inch loop which is carried along both sides and one end of the coaling basin. Each wing of the loop is provided with a 12-inch gate valve, and each compartment of the storage basin is provided with a 10-inch valve connected to this loop.

A specially designed mushroom casting was placed in the water outlets on each basin so as to facilitate the water passing into the basin, and also to prevent coal from entering the delivery pipe. There is also provided outside of the pumphouse a 16-inch branch to sea, which is intended for draining the coal basin in case it is desired to remove the water.

New Book on Mine Accounting.

"Metal Mining Accounting" is the title of technical paper No. 250 just issued by the Government Printing Office on the authority of the Bureau of Mines. It is written by C. B. Holmes, auditor for the War Minerals Relief Commission, and in its sixty-odd pages contains a lay-out of the theory of the accounting in the operation of metal mines, model forms for such accounting and forms for a general voucher system.

This is a very practical compact presentation of the subject which is both readily understandable to the layman and correct in its fundamentals for the trained accountant.

The systems laid out in this book would be of immense advantage to be followed in whole or in part by any metal-mining operation of the average output.

The Bureau of Mines is printing a limited free edition, and when this supply is exhausted a copy can be secured from the Superintendent of Documents, Government Printing Office, at 10 cents.



At this writing, May 1, there have been introduced in the Senate of the United States 4314 bills, and in the House of Representatives 13,800 bills. Both houses of Congress have been busy with the large appropriation bills, which they are anxious to dispose of before recess is taken. The Senate Finance Committee, which has reported out all of the tariff measures, is advocating their early consideration, and it is now anticipated that they will be brought up for action in the very near future. The Water-Power Bill, which has been in conference, was agreed to April 30. A review of this legislation is found in the resume which follows. The Naval Appropriations Bill, as passed by the House, authorizes the Secretary of the Navy to use \$1,000,000 of the appropriation for coal and other fuels; in mining coal or contracting for same in Alaska, and for the construction of coal bunkers and docks for use in supplying ships. This bill also appropriates \$30,000 for the investigation of fuel oil and gasoline adapted to naval requirements. It also makes an appropriation of \$85,000 for depots for coal and other fuels, and the Naval Fuel Depot at San Diego is provided with \$1,150,000 with which to increase the capacity of the marine railway to 2500 tons. There has been no final action taken in any specific mining bills since our last writing, the only items of interest to receive special attention being the items contained in the large appropriation bills, which affects the Bureau of Mines and other agencies dealing with the mining industry. The following bills have been introduced since April 1:

Coal

H. R. 13725. Introduced by Mr. Cooper, referred to the Committee on Interstate Commerce. (*Federal Coal Commission*.) Section 3 of the bill provides for the appointment by the President of a Federal Coal Commissioner, who shall be appointed for a term of five years, and receive an annual salary of \$10,000. The bill is identical with S. 4089, introduced by Mr. Frelinghuysen, which provides for the appointment of a Federal Coal Commissioner.

S. 4278. Introduced by Mr. Frelinghuysen, referred to the Committee on Interstate Com-

merce. (*Amending Interstate Commerce Act*.) The bill, formulated by a special committee of the American Institute of Mining Engineers, provides that Section 15 of the Interstate Commerce Act be amended by inserting a new paragraph, which provides that, effective on and after September 1, all carriers by railroad subject to this Act will publish individual, proportional or joint rates on coal, which will be base rates subject to revision as provided in the Interstate Commerce Act and amendments thereto, such base rates to be qualified by additions thereto, in amount, and on all shipments made during each of the following calendar months.

On shipments made in August, 5 cents per ton.

On shipments made in September, 15 cents per ton.

On shipments made in October, 25 cents per ton.

On shipments made in November, 25 cents per ton.

On shipments made in December, 25 cents per ton.

On shipments made in January, 10 cents per ton.

Such base rates will be further modified by deduction therefrom, in amount, and on all shipments made during each of the following calendar months:

On shipments made in February, 10 cents per ton.

On shipments made in March, 25 cents per ton.

On shipments made in April, 25 cents per ton.

On shipments made in May, 25 cents per ton.

On shipments made in June, 15 cents per ton.

On shipments made in July, 5 cents per ton.

The bill specifically provides that nothing contained in the paragraph shall be construed to authorize or require any carrier to demand, collect, receive or enforce any charge which is greater or less than that shown in its schedules for switching and other incidental services performed in connection with the carriage of coal; also, provided that base rates of 75 cents

or less per ton will be exempt from the provisions of the paragraph.

Revenue

H. R. 13606. Introduced by Mr. Hawley, referred to the Committee on Ways and Means. (*Tax Exemption.*) This bill amends Sub-Section 11 of Section 231 of the War Revenue Act of 1918, which reads as follows:

"Farmers', fruit growers' or like associations, organized and operated as sales agents for the purpose of marketing the products of members and turning back to them the proceeds of sales, less the necessary selling expenses, on the basis of the quantity of produce furnished by them," to read as follows:

"Organizations of farmers or producers organized and operated as sales agents for the purpose of marketing the products of members, and organizations of farmers or producers, corporate in form or otherwise, with or without capital stock, not organized or operated for profit of the organization as such, processing, handling or marketing co-operatively or collectively the farm or agricultural products of their members or of the organizations." Sub-section 11 exempts all such organizations from taxation under the revenue law.

H. R. 13771. Introduced by Mr. Evans of Montana, referred to the Committee on Ways and Means. (*Excess Profits Tax.*) The bill provides that Section 211(a) of the Revenue Act be amended so as to increase the surtax upon individual incomes of \$100,000 and upward, as follows:

Fifty-five per centum of the amount by which the net income exceeds \$100,000 and does not exceed \$150,00.

Sixty per centum of the amount by which the net income exceeds \$150,000 and does not exceed \$200,000.

Seventy per centum of the amount by which the net income exceeds \$200,000 and does not exceed \$300,000.

Eighty per centum of the amount by which the net income exceeds \$300,000 and does not exceed \$400,00.

Ninety per centum of the amount by which the net income exceeds \$400,000 and does not exceed \$500,000.

One hundred per centum of the amount by which the net income exceeds \$500,000.

Section 2 of the bill provides for the amendment of Section 301(b) by providing that there shall be paid for the taxable year 1920, and each taxable year thereafter, upon the net income of every corporation, a surtax to be computed as follows:

After allowing the exemption provided for in Section 312 of this Act, namely, \$3000 to domestic corporations only, plus an amount equal to 8 per centum of the invested capital for the taxable year, the net income of all corporations shall be subject to the same surtax as the incomes of individuals, as provided in

Section 211(a) of said Act as herein amended.

S. 4206. Introduced by Mr. Calder, referred to the Committee on Finance. (*Taxation on Mortgages.*) The bill amends the Revenue Act by providing that the amount received by an individual as interest on an aggregate principal not to exceed \$40,000 of loans secured, under a mortgage or otherwise, solely by real estate, and upon bonds or other certificates of indebtedness of equal amount secured by or issued against such mortgage or mortgages, shall be exempt from taxation.

H. R. 12266, amending the Vocational Rehabilitation of disabled Soldiers Act, was passed by the House of Representatives on April 17, and on April 19 referred to the Senate Committee on Education and Labor.

H. R. 13502. Introduced by Mr. Morgan, referred to the Committee on Agriculture. (*Wheat.*) The bill provides the sum of \$300,000,000 to pay the producers of wheat in the year 1917, for each bushel of wheat sold subsequent to the 10th day of August, 1917, and prior to the 1st day of July, 1918, an amount per bushel equal to the difference between the market price of wheat at that time and the price at which the wheat was or may hereafter be sold, under the monopoly on the wheat market established by the Government of the United States. Persons entitled to the benefits of the Act shall file their claims with the Secretary of Agriculture, who is authorized to find what is due each claimant under the Act.

H. R. 13557. Introduced by Mr. Pell, referred to the Committee on Ways and Means. (*Collection of Taxes.*) The bill provides that any individual, trustee, executor, partnership, firm or corporation may pay not more than one-fourth of the tax due from said individual, trustee, executor, partnership, firm or corporation under the Revenue Act passed by the Sixty-fifth Congress, commonly known as the income and excess profits taxes, in the bonds of the United States. Such bonds shall be received by the Collector of Internal Revenue at par, and shall be immediately cancelled.

H. R. 13786. Introduced by Mr. Evans of Montana, referred to the Committee on Ways and Means. (*Computation of Surtax.*) This bill amends Section 211 and is identical with H. R. 13771, introduced also by Mr. Evans, reviewed in these columns, except that it makes the further provisions that the percentages applied only to incomes up to \$250,000 instead of \$500,000.

Lever Act

S. J. Res. 182. Introduced by Mr. Gore, referred to the Committee of Agriculture and Forestry. (*Repealing the Lever Act.*) This joint resolution provides that the Lever Act,

H. R. 4961, he repealed, provided that such parts of the Act as may be necessary to the further and final execution of the Act approved March 4, 1919, known as the Wheat Guaranty Act, shall remain in force until July 1, 1920; and provided further, that such parts of the Act as are necessary to further and final execution of an Act approved December 31, 1919, shall continue in effect until June 30 and December 31, 1920.

H. J. Res. 332. Introduced by Mr. McGregor, referred to the Committee on Judiciary. (*Amending the Constitution.*) This joint resolution amends Article V of the Constitution by reading as follows:

"The Congress, whenever two-thirds of both houses shall deem it necessary, shall propose amendments to this Constitution, or upon the application of the people of two-thirds of the States by a referendum of the electors of such States, shall call a convention for proposing amendments, which, in either case, shall be valid to all intents and purposes, as a part of the Constitution, when ratified by the people of three-fourths of the several States, who shall express their approval or disapproval of the proposed amendment by a referendum vote of the electors of the several States, and electors in each State shall have the qualifications requisite for electors of the most numerous branch of the State Legislatures."

Anti-Trust Law

R. H. 13703. Introduced by Mr. Volstead, referred to the Committee on Judiciary. (*Association of Producers of Agricultural Products.*) The bill provides that any person engaged in the production of agricultural products, such as farmers, planters, ranchmen, dairymen and fruit growers, may act together in associations, corporate or otherwise, with or without capital stock, in collectively processing, preparing for market, handling and marketing in interstate and foreign commerce, such products of their members; and such producers may organize and make the necessary contracts and agreements to effect that purpose, any law notwithstanding to the contrary; with the provision, however, that such association is so organized that no member shall have more than one vote, regardless of the amount he may have contributed for use as capital. The profits upon the capital invested is limited to 7 per cent., and no person may receive as a dividend or profit upon such contributions more than 5 per cent. of the total net profits made by any such association in any one year. The Secretary of Agriculture is empowered, shall he have reason to believe that such business is a monopoly or in restraint of trade, to require the association to show cause why it should not be directed to cease. Various rules and regulations are prescribed to safeguard the public from such an organization becoming a monopoly.

H. R. 13138, amending Section 8 of the Sherman Anti-trust Law, passed the House of Representatives on April 21, and was referred to the Senate Committee on Judiciary on April 22.

Labor

S. 4215. Introduced by Mr. Frelinghuysen, referred to the Committee on Interstate Commerce. (*Interstate Railroad Transportation Purposes.*) The bill provides that any person who combines or conspires with any other person for the purpose of instigating, maintaining, adjusting or settling any dispute, demand or controversy respecting the compensation, hours of labor or working conditions of employees of the railroads, with the intent to hinder or prevent the operation of trains, shall be guilty of a misdemeanor, and on conviction shall be punished by a fine of not more than \$1000 or by imprisonment for not more than two years, or both.

S. 4204. Introduced by Mr. Poindexter, referred to the Committee on Interstate Commerce. (*Interference with Commerce.*) The bill provides that whoever with intent to obstruct, delay, hinder or prevent the movement of commodities in commerce with foreign nations or among the several States, or who shall attempt to induce any person employed in any capacity in the production, care, maintenance or operation of any means or agency of such commerce, shall be punished by a fine not exceeding \$10,000 or by imprisonment not exceeding 10 years, or by both. Section 2 of the bill provides that a fine of \$15,000 or imprisonment for 15 years, or both, may be imposed upon anyone who with intent obstructs, delays, hinders or prevents the movement of commodities in commerce with foreign nations or among the several States by force or violence, or by threats or menace of any kind which prevents any person from engaging in employment, or from continuing in employment in any capacity in such production. A fine of \$10,000 or imprisonment for 10 years, or both, is imposed upon anyone who prevents the movement of commodities by the destruction or injury of any car, bridge, track, ship or any other means or agency, or who shall persuade others to do so.

Public Lands

H. R. 13501. Introduced by Mr. Wilson of Louisiana, referred to the Committee on Ways and Means. (*Sale to Military and Naval Forces.*) The bill authorizes the Secretary of the Interior to sell, upon application in such form as he may prescribe, to any soldier who is qualified to make entry under the homestead laws and who has not been a patentee thereunder, a tract of unappropriated, unserved public land in a reasonably compact form not exceeding 160 acres in area, for

which the soldiers shall pay the United States \$1.25 per acre.

H. R. 4197. Introduced by Mr. McKellar, referred to the Committee on Military Affairs. (*Soldier Education.*) The act is to be called the Educational Loan Fund Act, and provides that from and after the date on which the act becomes a law until January 1, 1925, every veteran shall be entitled to a loan of not more than \$60 per month for each month during which he is actually under instruction for not less than 10 hours per week, at an institution which is approved by the board a total amount under the provisions of the act not to exceed \$3000. Such soldier shall file his application with the board in accordance with the rules and regulations prescribed by them. Section 4 provides for the payment of the loan, in 10 equal annual installments, beginning January 1, 1926, with interest at 4 per cent. per annum.

Alaska

S. 4205. Introduced by Mr. Nelson, referred to the Committee on Judiciary, from which committee it was on April 21 reported without amendment. The bill provides for the amendment of an act providing for civil government for Alaska by establishing a district court for the District of Alaska, with the jurisdiction of district courts of the United States, and with general jurisdiction in civil, criminal, equity and admiralty causes. Four district judges shall be appointed at a salary of \$7500 per year. The bill defines the districts to which the four judges shall be appointed, and provides that a general term of court shall be held each year at Juneau, Nome, Valdez and Fairbanks.

War Minerals

S. 4259. Introduced by Mr. Sterling, referred to the Committee on Mines and Mining. (*War Minerals Relief.*) This bill is identical with the bill introduced in the House by Representative Garland, which provides for the relief of war minerals, and liberalizes Section 5 of the Army Contracts Bill.

National Budget System

Senator McCormick, chairman of the special committee on the National Budget System, submitted to the Senate a report to accompany H. R. 9783, which provides for a National Budget System and an independent audit of Government accounts, which now has passed both Houses. The report was favorable, but proposes some amendments to the original bill. The House bill provides that a Budget Bureau shall be placed in the office of the President, under his immediate personal direction, with the assumption that the President himself will prepare the budget, with the assistance of the Board of the Budget Bureau. The special committee has recommended that

the Budget Bureau be placed in the Treasury Department instead of in the President's office. The committee is of the opinion that if the Budget Bureau is in the Treasury Department, the greater part of the differences between the Treasury and other departments regarding the estimates of expenditures would be adjusted without appeal to the President. Among the amendments to the House bill, it is suggested by the special committee that each department be supplied with a general financial secretary; that the head of each department shall submit estimates to the Commissioner of the Budget, according to rules and regulations prescribed by the Secretary of the Treasury, on or before October 1. The general purpose of the bill is to fix upon the President and his Administration the legal and political responsibility for the sum and the detail of the estimates of expenditures proposed to Congress, and to fix no less clearly upon Congress the responsibility for the appropriations authorized. The committee does not believe that the bill will in any sense impair either the authority or the responsibility of Congress. It is presumed that the President in conference with his Cabinet will adopt a fiscal policy which will be laid before the Cabinet with estimates of revenue for the ensuing fiscal year. The committee bill provides for a Board of Appeals, to be attached to the general accounting office, to exercise appellate authority now vested in the Comptroller of the Treasury.

Monetary

S. 4237. Introduced by Mr. Frelinghuysen, referred to the Committee on Banking and Currency. (*New Coins.*) The bill provides that the Director of the Mint be directed to coin and place in circulation 7-cent and 8-cent pieces, of the usual weight and fineness of the subsidiary coinage of the United States, of a value between the 5-cent piece and the dime.

Government Departments

S. J. Res. 191. Introduced by Mr. Smoot, referred to the Committee on Appropriations. (*Reorganization of the Administrative Branches.*) The bill provides for a joint committee to be known as the Joint Committee on Reorganization, which shall consist of three members of the Senate and three members of the House, whose duty it shall be to make a survey of the administrative services of the Government, for the purpose of securing all pertinent facts concerning their powers and duties, overlapping, duplication of authority, etc. They shall also determine what redistribution of activities should be made among the several services, and what departmental regrouping of services should be made, so that each department shall embrace only services having close working relation with each other. The committee is to report periodically to the Senate and to the House the result of its inquiries, together with its recommendations,

and submit bills or resolutions for the purpose of co-ordination of Government functions and their most efficient and economical conduct.

WATER-POWER DEVELOPMENT

The bill creating a Federal Power Commission, consisting of the Secretaries of War, Interior and Agriculture, to develop water power on navigable streams and public lands for commerce and industry, is now before Congress for final consideration, on report from the conference committee, which has had the bill under study for some months following its passage by the two Houses.

The fight over the secretary of the commission resulted in the conferees providing that the commission shall appoint an executive secretary at \$5000 salary, and authorizing the commission to request the detail of an officer from the United States Engineer Corps to serve as engineer officer, the duties of both officials to be prescribed by the commission. The commission is given an initial appropriation of \$100,000, and its work is to be performed by and through the three departments named.

The commission is to investigate the utilization of water resources and its relation to industries and commerce. Preliminary permits may be granted for three years, and preference is given to development by the United States, the States and municipalities. These permits may be granted to citizens or corporations for the construction, operation and maintenance of dams, water conduits, reservoirs, power-houses, transmission lines or other works for the development and improvement of navigation and the utilization of power from any of the navigable waters of the United States or upon public lands. Licenses may be granted for a period of 50 years, at the end of which the Government is given the option of purchasing hydro-electric plants by paying the licensee for his investment, or issue a new license to the same party or new parties if they pay the original-owner his investment in the plant. The charge on the license for the use of Government lands shall not exceed 25 cents per developed horsepower. The commission is empowered to prevent increasing of prices to consumers for electric power and excessive profits by development concerns. The bill prohibits combinations to limit output or to fix prices, and likewise prevents discrimination in the distribution of power.

The bill creates a Waterways Commission composed of the Secretaries of War, Interior, Agriculture; Director of Geological Survey, Chief Forester; Director and Chief Engineer of the Reclamation Service, and the Engineer Corps in charge of river and harbor improvements to bring into co-ordination and co-operation the engineering, scientific and constructive services, bureaus, boards and commissions in the Government departments relating to

the study, development and control of waterways and water resources with a view of uniting such services in investigations with respect to water sheds, questions relating to development, improvement, regulation and control of navigation as part of commerce, and related questions of irrigation, drainage, forestry, arid and swamp land reclamation, classification of streams, regulation of flow, control of floods, utilization of water-power, prevention of soil erosion and waste, storage and conservation of water for agricultural, industrial, municipal and domestic uses, co-operation of railroads and waterways and promotion of terminal and transfer facilities. The commission is to report to Congress plans for development of waterways and water resources for purposes of navigation and other useful purposes.

Licenses under the bill are placed under the supervision of State public service commissions as to rates to be charged consumers for power and regulation of service.

MISCELLANEOUS

S. 1267. Introduced by Mr. Spencer, referred to the Committee on Judiciary. (*Racial Questions.*) The bill provides for a commission of nine persons, to be known as the Commission on the Racial Question in the United States of America, and shall be composed of three white men from the South, three white men from the North and three colored men. The commission is to be appointed by the President, and shall have authority to inquire into and thoroughly investigate the conditions surrounding the colored people in the United States, and to suggest such remedies as they may deem best calculated to relieve the situation and to bring about harmonious relations. The expense of the commission is limited to \$50,000 for any one fiscal year. The commission is to be under the supervision of the Secretary of the Interior.

H. J. Res. 330. Introduced by Mr. Reavis, referred to the Committee on Judiciary. (*Reorganization of Administrative Branches.*) Same as S. J. Res. 191 by Mr. Smoot, above referred to.

H. J. Res. 340. Introduced by Mr. Voigt, referred to the Committee on Judiciary. (*Political Prisoners.*) This resolution provides that where there are large numbers of men and women in prison whose offenses are of a political nature, consisting of opinions expressed, orally or in writing, respecting the war or the prosecution thereof, and who are not guilty of acts of violence, that it be resolved, that "Whereas the Constitution of the United States provides that 'Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of

the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances'; and whereas the prosecution of the above-mentioned class of persons is contrary to the spirit of the Constitution and the traditions of this country, and the plea of war-time necessity for such prosecutions no longer exists; and whereas in all European countries amnesty and pardon has already been granted to political prisoners: Therefore, be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That it is the sense of the Congress that the further prosecution and imprisonment of political offenders as herein described should immediately cease, and that such political offenders be immediately pardoned, and that prosecutions against them be discontinued, as the case may require."

H. R. 13677. This bill was reported from the Committee on Appropriations by Mr. Good, and provides for an additional amount for carrying out the provisions of the Transportation Act of \$300,000,000. It also provides that the War Finance Corporation, as rapidly as funds become available, shall take over from the United States Railroad Administration, at par value and accrued interest, such of the bonds of the United States of the various Liberty loan and Victory loan issues as are held by the Administration at the time of the approval of this act, and which it does not desire to retain. The bill also provides for two additional members on the Interstate Commerce Commission, at a salary of \$12,000 per year.

H. R. 13526. Introduced by Mr. Baer, referred to the Committee on Judiciary. (*National Food Commission*.) The bill provides for the creation of a National Food Commission, to be composed of five commissioners to be appointed by the President, by and with the advice and consent of the Senate, who shall serve for terms of one, two, three, four and five years, term of each to be designated by the President. Their successors shall be appointed for terms of five years, except that any person chosen to fill a vacancy shall be appointed only for the unexpired term of the commissioner whom he succeeds. No commissioner shall engage in any other business, and may be removed by the President or by a resolution of the Senate for inefficiency, neglect of duty or malfeasance in office. They shall receive a salary of \$10,000 a year, and the principal office of the commission shall be in the District of Columbia. Section 3 of the bill provides that no person engaged in the business of slaughtering livestock, or preparing livestock products for sale, etc., unless he shall secure and hold a license which shall be issued by the commission upon application, shall be permitted to do business. It shall be unlawful for any corporation or company to

hold stock or any interest in more than one packer six months after the passage of this act, and the commission is authorized to institute proceedings to condemn and forfeit to the United States any stock so held. After the expiration of 90 days from the passage of the act, anyone who still continues in business not authorized by the act shall be guilty of a misdemeanor, and shall be punished by a fine of not more than \$5000 or imprisonment of not more than two years, or both. Section 7 of the bill provides that it shall be unlawful for any licensee to engage in any unfair, unjustly discriminatory or deceptive practice or device in commerce, or to sell or otherwise transfer to any other licensee any livestock or livestock products for the purpose of apportioning the supply between any such licensees, or unreasonably affecting the price of or of creating a monopoly in the acquisition of, buying, selling or dealing in livestock or livestock products. Various provisions are made for the punishment for violation of the act, and the commission is given power to issue all rules and regulations.

H. J. Res. 347. Introduced by Mr. Hayden, referred to the Committee on Judiciary. (*Repealing War-time Acts*.) The bill provides as follows: That all acts and joint resolutions of Congress which have been passed since April 6, 1917, and which by their terms are to be effective only for the period of the war, or for the present or existing emergency, or until a treaty of peace should be ratified, or until the proclamation by the President of the ratification of a treaty of peace, are hereby repealed; and all such acts and resolutions which by their terms are to be effective only during and for a specified period after such war, or such present or existing emergency, or the ratification of such treaty, or the proclamation by the President of the ratification of such treaty, are hereby repealed, which repeal shall be effective at the end of the specified period, such specified period being construed as beginning on the date of the final passage of this resolution.

H. R. 13827. Introduced by Mr. Evans of Montana, referred to the Committee on Judiciary. (*Repealing War-time Legislation*.) Reads as follows: That all acts and joint resolutions of Congress which have been passed since April 6, 1917, and which by their terms are to be effective only for the period of the war, or for the present or existing emergency, or until a treaty of peace should be ratified, or until the proclamation by the President of the ratification of a treaty of peace, are hereby repealed; and all such acts and resolutions which by their terms are to be effective only during and for a specified period after such war, or such present or existing emergency, or the ratification of such treaty, or the proclamation by the President

of the ratification of such treaty, are hereby repealed, which repeal shall be effective at the end of the specified period, such specified period being construed as beginning on the date of the final passage of this act.

H. R. 13803. Introduced by Mr. Kahn, referred to the Committee on Military Affairs. (*Bureau of Air.*) The bill creates a separate and distinct department to be known as the Bureau of Air, with a Director of Air, to be appointed by the President. The bill makes all provisions for the efficient operation of such a department, the transfer to it of certain divisions of the Army and Navy, the proper functioning and control of the air forces, building of planes, commissioning personnel. It appropriates \$100,000 to carry out its provisions.

SUNDRY CIVIL APPROPRIATIONS

The following are important appropriations contained in the Sundry Civil Appropriation Bill:

Board of Mediation and Conciliation, \$35,000; \$95,40 less than current appropriations and \$15,000 less than the estimates.

Tariff Commission, \$300,000.

Interstate Commerce Commission, \$4,693,100.

Interior Department—Registers and receivers of land offices, \$45,000; decrease of \$25,000. Land office contingent expenses, \$350,000; decrease of \$25,000 from estimates. Depredations on Public Lands, \$500,000; no change. Hearings in land entries, \$25,000 no change. Surveying Public Lands, \$700,000; no change.

Geological Survey—Salaries, \$28,520; decrease, \$2500. Scientific assistants, \$29,900; no change; general expenses, \$30,000. Topographic surveys, \$330,000; \$5000 more than this year; \$600,000 estimated. Geologic surveys, \$352,000; \$347,000 current appropriations; \$500,000 estimates. Chemical and physical researches, including potash salts, \$40,000; no change; \$60,000 estimates. Preparation reports mineral resources, \$125,000; \$110,000 current appropriations; \$200,000 estimates. Water resource investigations, \$180,000; \$175,000 current appropriations; \$200,000 estimates. Engraving and printing geologic maps, \$125,000; \$118,000 current appropriation; \$140,000 estimates. Examination and classification of lands, \$300,000; \$175,000 current appropriations; \$400,000 estimates.

Survey of power production and distribution, including methods for further utilization of water-power, special investigations of possible economy of fuel, labor and materials resulting from use in the Boston-Washington industrial area of comprehensive system for generation and distribution of electricity to transportation lines and industries, for which the Government may accept contributions, \$125,000. An estimate of \$250,000 was submitted. Total Geological Survey appropriations \$1,655,700, as

compared with \$1,461,353 current appropriations and \$2,592,920 estimates.

Bureau of Mines—General expenses, \$76,900; \$73,300 current expenses; \$76,900 estimates.

Investigations as to causes of mine explosions, methods of mining, especially in relation to safety of miners, appliances best adapted to prevent accidents, improvement of conditions under which mining operations are carried on, use of explosives and electricity, prevention of accidents and other inquiries and technologic investigations pertinent to mining industry, \$409,065; \$422,210 current appropriations; \$454,010 estimates.

Investigation mineral fuels and unfinished mineral products belonging to or for the use of the United States, with view of most efficient mining, preparation, treatment and use and to recommend to various departments such changes in selection and use of fuel as may result in greater economy, \$142,510; current appropriations, \$150,000; estimates, \$175,000.

Inquiries and scientific and technologic investigations concerning mining, preparation, treatment and utilization of ores and other mineral substances with view of improving health conditions and increasing safety, efficiency, economic development and conserving resources through prevention of waste in the mining, quarrying, metallurgical and other mineral industries, and to inquire into economic conditions affecting these industries, \$125,000; \$100,000 current appropriations; \$250,000 estimates.

Inquiries and investigations concerning mining, preparation, treatment and utilization of petroleum and natural gas, with view of economic development and conserving resources through prevention of waste, to inquire into economic conditions affecting the industry, \$135,000; \$125,000 current appropriations; \$150,000 estimates. Not more than 20 per cent. of the appropriations for mine explosions, safety work and petroleum investigations and not more than 30 per cent. of appropriations for mineral fuels investigations are to be used for personal services in the District of Columbia. The Secretary of Treasury may detail medical officers of the Public Health Service for co-operative health safety or sanitation work with the Bureau of Mines, to be paid from Bureau of Mines funds.

Establishment, maintenance and operation of mining experiment stations, \$175,000; \$150,000 current appropriations; \$250,000 estimates.

Buildings at Pittsburgh, \$50,000; \$17,240 current appropriations; \$17,220 estimates.

Operation of mine rescue cars, \$154,667; no change; \$180,250 estimates.

Mine inspection for Alaska is provided for with usual appropriations. Provision is also made for maintenance of the Government fuel yard in the District of Columbia, and the Secretary of Interior is authorized to deliver in April, May and June all Government departments in Washington fuel for use for the following year as it may be practicable to store,

payment to be made from appropriation for the year beginning in July.

Total Bureau of Mines, \$1,277,642; current appropriations, \$1,201,897; estimates, \$1,655,880.

Reclamation Service, \$7,898,000; current appropriations, \$7,300,000.

Alaskan Engineering Commission, including plant for cleaning coal, \$7,000,000.

National Parks, \$903,860.

Department of Justice, detection and prosecution of crime, \$2,000,000. Enforcement of anti-trust laws, \$100,000.

Bureau of Standards—Testing of large scales used in weighing commodities for interstate shipment, \$40,000.

Department of Labor—Investigations touching women in industry, \$75,000. Deal with problems of negro workers and their relation to white employers and white workers, \$15,000.

Employment Service, to enable department to foster, promote, develop welfare of wage-earners, to improve their working conditions, to advance their opportunities for profitable employment by maintaining national system of employment offices in the State and to co-ordinate public employment offices by furnishing information as to opportunities for employment and maintaining system for clearing labor between several States, \$225,000; \$400,000 current appropriations; \$1,582,754 estimates.

The bill creates in the office of the President a Budget Bureau, with a Director and Assistant Director at \$10,000 and \$7500 each appointed by the President. The President to transmit annually to Congress a budget containing balanced statements of revenues and expenditures of the Government.

The bill also creates an accounting department under a Comptroller-General and abolishes the present Comptroller and Assistant Comptroller of the Treasury on July 1. The Accounting Department shall take over the duties of the Treasury Comptroller. A Comptroller-General and Assistant at \$10,000 and \$7500 are provided. All of the auditing activities of the Government are transferred to this new bureau, and the bill abolishes the present auditors for the Treasury, War, Interior, Navy, Postoffice and State Departments on July 1.

The principal reduction in the bill is the elimination of \$446,270,652 for the Shipping Board. The bill proposes that the expense of the Board for 1921 for completion of construction of ships, payment of claims, administrative purposes and maintenance and operation of vessels shall be used from ships sold prior to the approval of this act to \$15,000,000, the amount from ships sold during the war to \$30,000,000 and the amount from plant and material sold during the year to \$25,000,000.

The bill reduces from \$2,764,000,000 to \$2,664,000,000 the authorization made during the war for ship construction. After approval of the bill the Board would be prohibited from

entering into contracts or undertaking the work for any additional vessel construction.

Ore Under Town—Town is Moved

It is not every town, fortunately or unfortunately, according to one's point of view, that is so rich below its foundations that more than half of its population is induced to yield house and home to the inexorable march of industry. Hibbing, Minn., population 18,000, is such a town.

Hibbing is located on the famous Mesaba Range, where a considerable share of the iron ore in this country is produced. Approximately half of the city, embracing 10,000 of its people, occupies ground that has been discovered to contain exceptionally high values in iron. As a result this part of the city will move, bag and baggage, to a new site two miles away.

An interesting feature of Hibbing's partial removal is the oxwelding of about 35,000 feet of pipe for the new gas distributing system. This is an example of the new way in which gas pipe lines are now installed, a continuous length of pipe being oxwelded and doing away entirely with the old threaded connections at the joints. The new process requires only the Oxweld cutting and welding blowpipes and the necessary supplies of oxygen and acetylene, which are conveniently conveyed to the work in Linde and Prest-O-Lite cylinders, the whole outfit being moved along with the work as it progresses. This is the first time that two-inch pipe has been welded in the Mesaba region. About 8000 feet of the new Hibbing gas piping is of this size, the balance being four-inch and eight-inch pipe. Oxwelding of pipe lines has been found very satisfactory both as to serviceability of the lines and economy of installation.

The new Hibbing will lose little by its change of foundations, and it will gain much in the way of general improvements, though these may be some time in developing.

Carbon Black Price Increases

The first carbon black, made in 1872, sold for \$2.50 per pound; this price rapidly decreased until it reached the low mark of five cents per pound in 1912. In 1915 support was given the carbon black market when the beneficial results of the use of carbon black in rubber tire-making were discovered. The market price of carbon black has increased and has not since fallen below eight cents; during the past two years it has sold for as much as sixteen cents. The grade of black above mentioned is that used by the rubber and newspaper ink trade, and constitutes the bulk of the production, although there are some grades, such as the Peerless black, that bring as much as thirty-five cents at the present time. The latter is used in limited quantities in making embossing and high-grade lithographic ink.—U. S. Bureau of Mines.

PUBLIC OPINION

SENATOR JONES, in discussing the conferees agreement on the water-power bill, said:

"I understand that the bill as proposed makes possible the development of 4,000,000 horsepower daily. Water-power development would afford cheap water transportation to districts now sparsely settled. It is a national duty to encourage water-power development. Articles used and consumed in the household are affected by the price by which these articles can be produced under cheapest conditions. The cost of food, clothing, fertilizers, explosives, convenience and facility of transportation, all would be beneficially affected by development of water-power. The coal shortage brings up the question of the folly of leaving unused resources of water-power. The more they are developed the less desperate will be the fuel stringency. It is a waste not alone of money, but extends in direct results to public health and life itself, as these are affected by inability to secure coal for heating and production of necessities of life. Experts estimate that our coal supply at present rate of consumption and the increase that will follow increase in population will exhaust our anthracite deposits and all high-grade bituminous coal deposits within 100 years.

"Five billion dollars of potential water-power is lost in the United States every year. The United States must not fall behind Europe in conserving its coal deposits and developing vast amount of cheap electric energy contained in waste water-powers. Hydro-electric energy gives us means of saving our coal, enables us to obtain electricity at low prices, lowers industrial costs of production and improves agriculture. It is a sure weapon in the economic struggle which faces us."

ELBERT H. GARY, chairman of the United States Steel Corporation, in his speech at the annual meeting of stockholders on April 19, said in regard to labor conditions as surrounding his organization:

"We believe in co-operation between employer and employee; in affording every employee the chance to advance, according to merit, from one place to another, without interference or restriction by outsiders, and to become pecuniarily interested in the property and business by securing, on liberal terms, a stock interest. During the emergencies of the war our employees remained at their posts of duty continuously. This was not because of the counsels of union labor leaders, but in spite of them. We do not combat labor unions as such. We, of course, acknowledge the natural right of labor to organize; but we insist that a labor organization should be subjected

to governmental control and regulation like other organizations. Discrimination by law in favor of or against any particular class is detrimental to the interests of the general community. It contradicts the fundamental principles of our Government.

"We stand for the open shop, which permits a man to work when and where he pleases, on terms mutually agreed upon, whether he does or does not belong to a labor union. Our men generally do not belong to labor unions, because they know by long experience it is to their advantage to be free from dictation by outsiders. We believe, and we think the general public is of the same opinion, that the welfare of mankind will not be promoted by "the one big union," by the organization of the entire industry of the country, or by the control of industry under the arbitrary direction of an organized minority.

"Another problem which has caused anxious inquiry on our part relates to the hours of work per day. It is a difficult one on account of the nature of operations at some of our plants. Those who sometimes suggest there might be fewer hours do not show us a practical method taking into consideration existing circumstances. They do not offer a feasible plan for maintaining continuous operations under a short day service, especially in view of the fact that the men themselves will not submit to it unless they are paid compensation for short days equal to the full amount which has been paid for longer days. So far as the workmen are concerned, they are not satisfied with short days, if larger pay per day can be secured by working longer days. The whole question resolves itself into increased and increasing rates of compensation."

SENATOR KING, in discussing the bill providing for a *Bureau of Efficiency* in the Government to co-ordinate with Government departments, said:

"I believe that if a law were passed creating an efficiency and economy bureau responsive to Congress its work would be productive of the highest good and result in an annual saving of tens of millions of dollars to the Government. I sincerely hope that at an early date this important subject will be considered by Congress and that suitable legislation will be enacted that will effectuate administrative reforms and co-ordinate and integrate Federal agencies of the Government and bring about economies in all branches of the public service."

WILLIAM HOWARD TAFT, in an article in the *Philadelphia Public Ledger*, said:

"One of the most encouraging symptoms in

Congressional debates during the period succeeding the war has been the evident weakening of the powers of duress which the heads of labor unions have often exercised over members.

"The czar-like attitude of labor leaders that the public has no interest which it can assert by law in preventing combinations which subject the public to untold suffering and loss has aroused an opposition which these leaders were very unwise to stir up. It has consolidated farmers into the determination to exercise their influence to prevent such strikes in the future.

"The war gave the labor unions, and especially extremists among them, a sense of absolute power which they have abused; and in their abuse of it they have united the public in a determination in self-defense to prevent further abuses.

"The pride of the unions went before a fall. Attempts to exercise unbridled power like that of a soviet will be curbed through the common sense of the American public, and needed legislation, if further excesses require it, will be enacted."

CONGRESSMAN BOODYKOONTZ of West Virginia, in opposing an amendment to a Western land bill, which reserves oil, coal and other mineral deposits to the Government, said that Western lands are liabilities instead of assets to the Government. The Government should turn the land over to the States because the cost and expense of Government supervision exceeds the benefits to the Government. The Government receives no return from leases on coal and oil lands, the rentals being absorbed by maintenance and expense costs.

CONGRESSMAN TAYLOR of Colorado, in opposing the bill which provides for the reserving of oil, coal and other mineral deposits to the Government, said that such action put an unjust cloud upon property in the West. There is harsh, incredulous, superstitious and utterly inexcusable and unwarranted policy toward every little bill that affects the West. We ought to court the good-will instead of the ill-will of the pioneers on the public domain and try to build up that country rather than retard its growth.

CONGRESSMAN BARBER on the floor of the House recently protested against the bills affecting the national parks in California, in that there was said to be great copper deposits in the area proposed to be added to Sequoia Park, and that there should be opportunity given for future development of the valuable deposits. Mr. Barber said: "I want the minerals developed. If valuable minerals are locked up in the parks, the public should have the right to develop those deposits. I am trying to prevent the tying up of great valuable mineral deposits in national parks where they will not do any-

body any good, and prevent their future development, and then providing that you shall protect all claims filed prior to the creation of the parks. You will permit one class of mineral claims to be developed, but no others, no matter how valuable they may be."

VAN H. MANNING, Director of the United States Bureau of Mines, in an address before the *National Association of Manufacturers* in Washington on April 19, advocated the promotion of joint interests of industry and the public with Federal and State governments in all matters of national concern. Mr. Manning said that in dealing with large groups of people, the difficulty of interchange of ideas hampers the work. The policy adopted by the Government during the war of appointing liaison officers was recommended to national associations. Where a considerable group of people are all working on the same line of work, it is obvious that the economy of effort may result by mutual co-operation. The information that one person has acquired with much effort may be made available to other persons and benefit will accrue to all concerned. It is too common in the business world to regard information acquired as a business asset to be jealously guarded. There may be some justification of this when all that is sought is individual benefit, but in associations organized for mutual welfare of considerable groups of people mutuality ought to extend outside the group. It is illogical for a producer to organize machinery for the common good if he expects to use the same machinery for his sole good as contrasted with the good for the general public. There should be mutual co-operation on the ground that the work thereby accomplished is immensely greater than anything that can be achieved by playing the "lone hand." In the long run the net total accomplished will be greater than if the advantage of other groups is excluded. Congress and the Government departments ought to be educated to the fact that industrial associations are public institutions, and not designed for selfish interests. Legislative bodies act with best intentions, and that men should get together on a common ground and agree upon something for the best interests of all. Our attitude should be that of statesmen, and not of selfish exploitation."

THE AMERICAN METAL MARKET in its issue of April 15 has an interesting editorial on *Labor and the War*, from which we quote as follows:

"Is it not high time that the prating and buncombe about labor and the war should cease? 'Labor helped to win the war.' Yes, labor, safe on shore, threw a rope to the drowning, towed him to shore and took in payment half the pocketbook and clothes of the victim, who had plunged in for the common good of all, labor included. We were glad to be rescued, and they were welcome to the

money and the clothes; but don't let them trust as the heroes of the occasion.

"And now labor wants to sell back at a high price to the naked and needy the clothes lost in the struggle; well, we must have the clothes for our recovering, but don't let labor whine because we don't want to pay too dearly for them.

"Let it be noted, labor did not get all our money—others safe on shore got some of it, too. But it would be just as absurd for those who sold the Government's war material at high costs to strut and pose as the saviors of the country as it is for labor to do so.

"What the country does object to is that profiteers and labor alike should 'get it coming and going, too,' and the country means to resist the extortion to the utmost."

SENATOR KING, in discussing the *National Budget System* proposed in H. R. 9783, said:

"We have believed that our resources were limitless, and that no improvidence nor extravagance could jeopardize nor endanger our future. We have regarded our country as vast in area and unrestricted in power. We have examined everything with the telescope; seldom have we employed the microscope. We have insisted upon doing things in a big way. We have opposed conservation and economy and thrift and a jealous regard for the small things, whether they were material or abstract. This characteristic is pre-eminently American, and has found expression in our private lives, in our business affairs, and in our administration of our municipal, State and National governments. We have not worked intensively nor applied ourselves with the scientific and investigating spirit to the details of life. There must be a radical change among the people. The economic and industrial condition of our country and of the world calls for a re-examination of our policies and our attitude toward those questions which affect our lives individually and nationally. We should be admonished that our resources are limited, and some have reached the point of exhaustion. If we do not curtail expenses national bankruptcy is inevitable. Congress has appropriated entirely too much."

SENATOR SMOOT, in discussing the *National Budget System*, said:

"I do not want to be an alarmist, but I say now that there will have to be a change not only in the expenditures of money on the part of the Government, but in the mode of living of the people in this country, or trouble is bound to come. When we stop to think that the world is not producing what the world requires, only one result can come from it, and that is disaster. The peoples of the world will have to produce more, and unless they do, I care not how much taxes may be reduced or how large the appropriations, it will not remedy the situation.

"It is all very well for us to issue paper money by the billions; it is all very well for the countries of the world to put their printing presses in operation and issue untold billions of uncovered paper money; but the greater the quantity of it that is issued, the greater the cost of producing goods in the world and the cost of living to the people. The only thing that can bring about normal times in this country and in all the world is to produce more and at least to produce as much as is consumed by the people of the world."

SENATOR FRELINGHUYSEN, in discussing the *Dyestuffs Bill*, said:

"Public expression has been repeatedly given to the duty that Congress owes to the nation in regard to this subject. Many public men have expressed the opinion that what expediency has taught us to create during the war should be capitalized and retained, and that Germany's industrial hold here should be loosened. Great industries which prior to the war Germany controlled in the United States are now in the hands of American owners. The story of the Dye Industry is one that shows the pitiful plight of a great country whose statesmen have lacked the vision to see that encouragement of industrial progress through the development of science was essential to the safety of the country and its people, who had placed their destiny in their hands.

"Prior to the war, Germany controlled the dye industry of the world, amounting to \$68,300,000 in value of artificial dyes. In 1914 only seven establishments in the United States were engaged in the industry, with \$3,000,000 capital invested, employing only 500 people, and producing only \$3,506,795 worth of goods.

"We have been importing more than \$12,000,000 worth of coal-tar products a year. We have the coal tar and we have the chemists, so there seems no good reason why we should not make our own dyes. That we are not so independent today is our own fault, for we waste enough coal tar to supply ourselves and other countries with all the new dyes needed. It is essentially a question of economy and organization. We have forgotten how to economize, but we have learned how to organize.

"Does any student of economics suppose that Germany will not now sacrifice millions in the endeavor to break down any tariff wall we may erect, and, by underselling, seek to wipe out our competition? Should she succeed in destroying the American dye industry, then she will make up her losses by exacting enormous prices from those of our manufacturers—representing three and a half billions of products—that rely solely on dye and coal-tar products for the continuance of their industries?

"The United States Census of Manufacturers, 1914, shows industries directly and indirectly dependent on dyestuffs, showing a

total of 67,585 establishments, 2,143,642 persons employed, \$4,366,213,000 capital invested and \$5,700,636,000 value of products.

"I believe it is the manifest duty of Congress to establish at once a national policy to protect the dye and coal-tar products industry in the United States and to enable the manufacturers of this country to make their arrangements to procure and invest the necessary capital for experimentation and to retain the expert chemists and artisans necessary for continuing their war-time activities for America's markets.

"Capital has not a reputation for timidity in this country. American enterprise is courageous and is willing to take a chance, providing that chance is an even one; but it is not fair for us in Congress to expect the American manufacturer to hazard millions of his capital and also expect him to fight in the dark without giving him the opportunity to make the necessary research, so that American chemists and scientists may study and experiment, in order to meet the competition growing out of Germany's forty years of previous experience.

"Let us forget any sectional interests. I am for America's progress and her upbuilding in every corner of this broad land. I am for the supporting of our industries and our own resources untinted by sectional selfishness or partisanship. Let us get down to business here in Congress and do business as Americans, loving one great country."

Tax on Sale of Mineral Deposits

The fact that a company is entitled to the benefit of Section 337 will not disqualify it for special treatment under Section 328, neither can the fact that it is entitled to the benefit of Section 337 be used as a basis for claiming special treatment under Section 328. If a corporation falls within the class specified in Section 327, the tax will be determined under Section 328. The effect of Section 337 is to limit the amount of tax attributable to the profit made on the sale of mine, oil and gas wells discovered by the taxpayer, and can only be applied after the tax computed on such profit has been computed without the benefit of this section.—*Internal Revenue Ruling.*

Use of Gas Mask Limited.

A recommendation by the committee on safety of the Bureau of Mines is as follows:

"The Bureau of Mines disapproves the use of any military or industrial gas mask so far developed, in fighting mine fires or in recovery work after explosions in any kind of mine, because there is always likely to be carbon monoxide present, or a deficiency of oxygen existing, or both. Self-contained oxygen breathing apparatus should be used under these conditions."

REFINERY CAPACITY IS IN EXCESS OF OIL PRODUCTION

Figures compiled by the Bureau of Mines show that the petroleum refinery capacity of the United States is considerably overbuilt. At present the refineries have a total rated capacity over 50 per cent. in excess of the refinable oil supplies, which is likely to be near 80 per cent. when the refineries now under construction are completed.

The oil runs to the refineries of the United States for the year 1919 were 361,520,153 barrels of crude oil, or 990,466 barrels per day. In December, 1919, the refineries in operation had a daily capacity of 1,356,355 barrels per day, whereas the daily run of crude oil to the stills was 1,046,052 barrels, indicating that they are running at only 73 per cent. of their rated capacity. Refineries of an additional 174,210 barrels capacity per day were idle, while refineries totaling a capacity of 263,000 barrels daily were under construction.

It is evident that larger supplies of refinable crude oil are needed by the refineries which are now in active competition in the purchasing of crude oil in the open market. This competition for oil to keep the refineries in full operation has doubtless been one of the influences in the recent advances of crude oil in the United States. Crude oil in the Mid-Continent field, which produces some two-thirds of the refinable oil in the country, has advanced from \$2.25 per barrel to \$3.50 per barrel in the last few months.

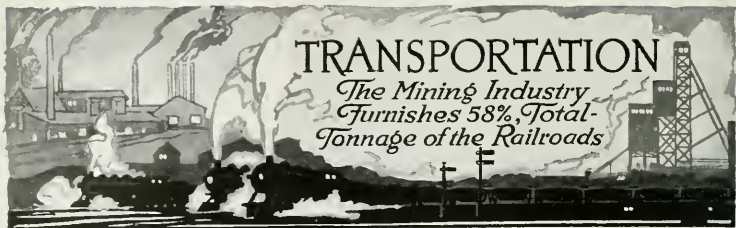
A complete list of the refineries, their locations and the daily capacities has recently been compiled by H. F. Mason, petroleum economist of the bureau. Copies may be obtained from the Director of the Bureau of Mines, Washington, D. C.

Investigate Helium Supply

The supply of helium is apparently limited. Only a special type of natural gas contains it, and as this gas is being rapidly consumed for domestic and industrial purposes, the Government is putting forth an effort to explore the extent of this resource and to provide ways and means to conserve it. A field survey is in progress, the aim of which is to locate gas wells suspected of containing helium, to analyze their contents and to establish their probable ultimate yield.—Bureau of Mines.

Sells Picric-Acid Plant

The Director of Sales announces that the Ordnance Salvage Board has sold to H. C. Couch, president of the Arkansas Light & Power Co., representing a group of business men of Little Rock, Ark., the acid manufacturing plant near Little Rock, which was constructed by the Ordnance Department during the war for the producing of picric acid.



DECISIONS OF THE INTER-STATE COMMERCE COMMISSION

Coal.—The Commission has found the St. Louis, Troy & Eastern Railroad Co. to be a common carrier entitled to reasonable compensation for its services. The question of whether payment of divisions of joint rates to this line as well as the St. Louis & O'Fallon Railway Co. and the Litchfield & Madison Railway Co. was not determined, the Commission believing it to be a matter for the courts. In opinions disposing of the Markle & Dodson cases the Commission has found that complainants are entitled to reparation on account of unreasonable rates charged on anthracite coal from collieries in the Lehigh coal region of Pennsylvania and from Beaver Brook and Coleraine to Perth Amboy and Elizabethport, N. J., for trans-shipment by water. The amount involved is over \$100,000. In a case brought by the Peerless Coal Co. of Illinois the Springfield Terminal Railway Co. has been found to be a common carrier entitled to reasonable divisions of joint rates. In the same opinion the rates on coal, carloads, from points on the above line have been found to have been and to be unduly prejudicial. There will be a further hearing in this case on the question of damages. A complaint of the Champion Fibre Co. attacking rates on bituminous coal at Coal Creek, Tenn., to Canton, N. C., has been dismissed because the rates were not found unreasonable. Similar action was taken on a complaint of the Union Tanning Co. involving rates on bituminous coal from the Appalachia group of mines in Southwestern Virginia to Old Fort, N. C. The rates on coal, carloads, from Dawson, N. M., to Clarkdale and Jerome, Ariz., have not been shown to have been or to be unreasonable and the complaint of the United Verde Extension Mining Co. has been dismissed.

Ore.—In a case brought by the Calumet & Arizona Mining Co. the Commission has found that the rates in effect during Federal control on copper ore, carloads, from Bisbee, Ariz., to Douglas, Ariz., and on lime rock, carloads, from Forrest, Ariz., to Douglas were not unreasonable or otherwise unlawful and the complaint has been dismissed.

GENERAL NOTICES

Earnings.—A statement just issued by the Interstate Commerce Commission for all Class I railroads shows that during February the carriers were operated at a deficit of nearly \$8,000,000, or \$34 per mile of road operated. For the same month during the test period, which is the basis for the standard rental paid by the Government, the average railway operating income was \$215 per mile of line for the United States.

Loans.—The Commission has requested all carriers desiring to take advantage of the loan provisions of the new Transportation Act to make immediate requests covering their needs. The carriers are asked to co-operate with the Association of Railway Executives in preparing a comprehensive plan for the use of the money in question. It is generally understood that the Commission desires to have the bulk of the \$300,000,000 available used for new equipment.

Credits.—A hearing has been held by the Interstate Commerce Commission for the purpose of determining what rules shall be issued by the carriers providing for credits to shippers after July 1, and all interested parties have stated their views. As a general rule the shippers asked for weekly credits, but the iron ore people desire that credit be given for seven periods, to be extended through the ore shipping season. The carriers asked that present arrangements which were put into vogue by the Director-General be left in effect.

Car Service.—Under the authority contained in the Transportation Act the Commission is showing considerable concern regarding the car supply of the country, and particularly the cars available for transportation of coal. It is understood that it will keep an eye on this situation and take every possible step to improve existing conditions. The last summary issued by the American Railroad Association shows a shortage in all sections of flat cars and the necessity for loading only commodities that cannot be accommodated with other types of cars is emphasized. The Canadian situation shows that American lines have a surplus of Canadian box cars, while the opposite is true as to open-top car equipment. Constant attention

is being directed to the requirements of the Lake coal carrying lines and the need in that territory for the immediate return of hopper cars and other high capacity equipment. Instructions have been issued requiring the immediate return in all cases of the coal cars owned by the Chesapeake & Ohio Pennsylvania System and the Wheeling & Lake Erie Railroad. These cars are not to be loaded for points beyond the home lines.

Suspended Rates.—Interested carriers have filed schedules seeking to cancel the joint through rates on bituminous coal from points on the Sewell Valley Railroad in West Virginia to tidewater points and certain other destinations and the Commission has suspended the schedules involved. The matter will have attention in I. & S. Docket No. 1170 before the tariffs are allowed to go into effect. Similar action will be taken in I. & S. Docket No. 1173, concerning proposed switching rates on coal at Elkhorn City, Kentucky.

NEW COMPLAINTS

Docket No. 11347—Southern Fuel Co., Dallas, Texas, v. Director-General, B. & N. Ry. et al.

Filed March 27 by A. J. Stone, attorney.

Attacks as unjust, unreasonable, discriminatory and preferential rates assessed on chestnut (slack) coal from Brewer, Okla., to Bauxite, Ark.

Asks for reparation.

Docket No. 11354—Producers Refining Co., Tulsa, Okla., v. Gulf, Colorado & Santa Fe et al.

Filed April 1 by A. C. Holmes, traffic manager.

Against unjust, unreasonable, unjustly discriminatory and unduly prejudicial rates on gasoline from Gainesville, Texas, to Kassel, Avondale and Westwego, La.

Asks cease and desist order and reparation in the sum of \$5207.06.

Docket No. 11359—Wharton Steel Co. v. Director-General Hines as agent et al.

Filed April 2 by Charles McVeagh and C. S. Belsterling, attorneys.

Against unjust and unreasonable rates on iron ore from complainant's mines in Wharton to various blast furnace destinations. Alleges that rates also give undue preference and advantage in favor of complainant's competitors who own and mine and ship iron ore from the northwest ranges, from mines in the State of Pennsylvania, from Port Henry and other places in the State of New York.

Asks cease and desist order, just and reasonable rates and reparation.

Docket No. 11364—Duquesne Coal & Coke Co. et al v. Pittsburgh & West Virginia et al.

Filed April 6 by C. F. Taplin, attorney, Cleveland, Ohio.

Against unjust, unreasonable and discriminatory rates on coal from complainants' mines on Pittsburgh & West Virginia Railway to various destinations on lines of defendants.

Asks for rates no higher than those in effect from mines on various other carriers which enjoy the flat Pittsburgh district rates.

Docket No. 11370—Universal Petroleum Co., Chicago, v. T. & P. et al.

Filed April 3 by J. A. Ronan, attorney.

Against unjust and unreasonable rates and charges on gasoline from Wilson, Okla., and El Paso.

Asks for cease and desist order and reparation.

Docket No. 11371—Emerson - Brantingham Co. et al, Rockford, v. A. T. & S. S. et al.

Filed April 5 by C. S. Bather, commerce counsel.

Against unjust and unreasonable charges on petroleum from points in Oklahoma to Rockford, Ill.

Asks for reasonable rates and reparation.

Docket No. 11375—Meyersdale (Pa.) Smokeless Coal Co. v. B. & O. et al.

Filed April 7.

Against unduly prejudicial and disadvantageous charges on coal from complainant's mine at Casselman, Pa., by reason of failure to perform services similar to those performed for other shippers in the Meyersdale district.

Asks for reparation.

Docket No. 11376—The Robinson Clay Products Co., Akron, Ohio, v. Wheeling & Lake Erie et al.

Filed April 7 by Alvin Hill, traffic manager.

Against a rate of \$1.10 per net ton on coal from Sugar Creek, Ohio, to Dover, Ohio, as unjust and unreasonable because in excess of 80 cents.

Asks for reparation.

Docket No. 11390—C. S. Maltby, San Francisco v. Sumpter Valley et al.

Filed April 14.

Against unjust and unreasonable rates on chrome iron ore from Prairie Ore to points in Pennsylvania, Minnesota, New York, Indiana, Illinois and Utah.

Asks for reasonable rates and reparation.

Docket No. 11392—Harlan County Coal Operators' Association, Hazard Coal Operators' Exchange, Southern Appalachian Coal Operators' Association and West Kentucky Coal Bureau v. L. & N. R. R. Co. et al.

Filed April 16 by C. D. Boyd, traffic manager, and J. V. Norman, attorney, Louisville, Kentucky.

It is brought under Section 402 (15) of the Transportation Act, 1920, and asks for peremptory orders requiring the defendants to return promptly *open top cars* belonging to the L. & N. R. R. and peremptory orders requiring connections of the L. & N. to deliver daily to the L. & N. a reasonable number of their own or other open top cars in their possession until such time as the open top cars of the L. & N. may be returned to it in sufficient numbers to relieve the present unprecedented shortage at mines of complainants.

Docket No. 11396—Mason Valley Mines Co., a corporation, Reno, Nev., v. Western Pacific Railroad Co. et al.

Filed April 14 by S. W. Belford, general counsel, Reno, Nev.

Attacks as unjust, unreasonable and discriminatory rates on *ore* and *concentrates* between Plumas County points in the State of California and Wabuska, Nev.

Asks for the establishment of a through route and joint rates not exceeding \$1.95 based on a valuation of \$20 and scaled on up to \$6 based on a value of \$300.

Docket No. 11400—The Atlantic Refining Co., Philadelphia, v. Director-General et al.

Filed April 13 by E. H. Porter, traffic manager.

Against unjust and unreasonable rates on 44 tank cars of *coal tar naphtha* shipped between May 8 and July 12, 1919, from Ontario Street Station, Philadelphia, Pa., to Point Breeze Station, Philadelphia, Pa.

Asks for reparation.

Docket No. 11415—St. Louis & O'Fallon Railway Co., St. Louis, Mo., v. East St. Louis Suburban Railway Co. et al.

Filed April 21 by Nagel & Kirby, attorneys, St. Louis, and H. L. Child, attorney, Springfield, Ill.

Asks the Commission to prescribe a just and reasonable division of joint rates on *coal* turned over by complainant to defendant.

TENTATIVE REPORTS

Docket No. 10752—Wharton Steel Co. v. Director-General, Central Railroad Co. of N. J. et al.

A tentative report in this case has been proposed by Attorney-Examiner C. F. Gerry, the syllabus of which is as follows:

"The Wharton & Northern Railroad Co. found to be a common carrier of traffic switched and spotted for the proprietary industry.

"Refusal of the trunk lines to maintain joint rates including terminal and spotting services to and from the loading and unloading points at the Wharton Steel Co.'s plant at Wharton, N. J., and to its ore yard near Wharton Junction, N. J., while at the same time maintaining

such rates including the terminal and spotting services at competitive furnace points, found unduly prejudicial.

"Defendant's failure to allow complainant compensation for the expense of terminal switching and spotting of cars at its plant at Wharton found to have subjected complainant to undue prejudice and disadvantage.

"Reparation awarded on certain traffic. Reparation denied on shipments of pig-iron moving outbound via the D., L. & W. Railroad and on all cars interchanged and spotted by the Steel Co. during the period extending from January 1, 1918, to March 31, 1918, inclusive."

Docket No. 11088 (and Sub. No. 1)—Standard Oil Company, Kentucky, v. Director-General, I. C. R. R. Co. et al.

A tentative report in this case has been proposed by Attorney-Examiner W. A. Disque, the syllabus of which is as follows:

"Rates for the transportation of *crude, fuel and gas oils* from Crichton and Shreveport, La., to Louisville, Ky., found not unreasonable, unjustly discriminatory or unduly prejudicial."

Docket No. 11027—The Prairie Pipe Line Co. v. Director-General, Frisco, et al (4th Section Application No. 697).

A tentative report in this proceeding has been proposed by Examiner I. K. Cartner, the syllabus of which is as follows:

"Rate applied on seven carload shipments of second-hand *wrought iron pipe* from Tank City Siding, Okla., to DeQueen, Ark., was not legally applicable. Refund directed and complaint dismissed."

Docket No. 11144—Gulf Refining Co. of Louisiana v. T. & F. S. Ry. Co. et al.

A tentative report in this case has been proposed by Examiner G. H. Mattingly, the syllabus of which is as follows:

"Rate charged on *gasoline and lubricating oil* in carloads in tank cars from Port Arthur, Texas, to Memphis, Tenn., not shown to have been unreasonable and complaint dismissed."

Docket No. 10856—Utah State Automobile Association v. Santa Fe et al.

A tentative report in this case has been proposed by Examiner R. T. Eddy, the syllabus of which is as follows:

"Rates on refined products of *petroleum* from the Midcontinent field, Colorado, Wyo., and California to Utah points not shown to have been unreasonable, unjustly discriminatory or unduly prejudicial. Complaint dismissed."

Docket No. 11070—General American Oil Co. v. Director-General et al.

A tentative report in this case has been proposed by Examiner J. T. Money, the syllabus of which is as follows:

"Rates on *kerosene oil* in tank carloads from

Electra and Brownwood, Texas, to Kassel, La., and reshipped to Baton Rouge, La., for export found to have been and to be unreasonable. Reparation awarded."

Docket No. 11056—Keeler Lumber & Fuel Co. v. Director-General et al.

A tentative report in this case has been proposed by Attorney-Examiner M. A. Pattison, the syllabus of which is as follows:

"Combination rate of \$2.40 per net ton charged for the transportation of three carloads of bituminous coal from Nokomis, Ill., in the Central Illinois coal group, to Shopiere, Wis., found to have been unreasonable. Reparation awarded on the basis of the joint rate of \$1.77 per ton subsequently established from Nokomis and other mines in the same group."

Docket No. 10877—National Supply Co. v. C. M. & St. P. Ry Co. et al.

A tentative report in this case has been proposed by Examiner H. C. Keene, the syllabus of which is as follows:

"Rates on anthracite coal from certain points in the producing fields of Pennsylvania to points on lines of the defendants in Iowa, Kansas, Missouri and Nebraska not found to have been or to be unreasonable or unduly prejudicial. Complaint dismissed."

Dockets Nos. 10966 and 11008—Southern Carbon Co. v. A. & L. M. Ry. Co. et al.

A tentative report in these cases has been proposed by Examiner G. F. Graham, the syllabus of which is as follows:

"Rates on gasoline, in tank cars, from Spyker, Fairbanks and other points in Louisiana, in the so-called Monroe district to Baton Rouge and New Orleans, La., via interstate routes, and to Vicksburg, Miss., Memphis, Tenn., St. Louis, Mo., East St. Louis, Cairo and Chicago, Ill., Cincinnati, Columbus, Cleveland and Toledo, Ohio, Pittsburgh and Philadelphia Pa., Baltimore, Md., and New York, N. Y. found to have been and to be unreasonable to the extent they exceeded or may exceed the rate from Shreveport, La. Reparation awarded."

Docket No. 11085—Virginia Iron, Coal and Coke Co. v. Director-General and N. & W. Ry. Co.

A tentative report in this case has been proposed by Attorney-Examiner C. F. Gerry, the syllabus of which is as follows:

"Demurrage charges assessed on 27 carloads of iron ore at Roanoke, Va., not shown to have been or to be unreasonable or otherwise unlawful. Complaint dismissed." (This case deals with ore that was so frozen in transit that it could not be unloaded within the free time.)

Docket No. 10920—Nason Coal Co. v. Director-General, C. C. & St. L. Ry. Co. et al.

A tentative report in this case has been pro-

posed by Examiner Ulysses Butler, the syllabus of which is as follows:

"Rate of \$2.17 per net ton on bituminous nut coal, carloads, from Nokomis, Ill., via Chicago, Ill., to Union Grove, Wis., found to have been unreasonable to the extent that it exceeded \$1.82. Reparation awarded."

Docket No. 11036—Seaboard By-Product Coke Co. v. Director-General, D. L. & W. R. R. Co. et al.

A tentative report in this case has been proposed by Examiner T. M. Woodward, the syllabus of which is as follows:

"Combination rate of \$4.116 per gross ton on bituminous coal from the Connellsville district in Pennsylvania to Seaboard, N. J., found to have been unreasonable to the extent that it exceeded the combination rate of \$2.65 per gross ton which was subsequently established. The latter rate not shown to have been unreasonable."

Docket No. 10947—Cambria Steel Co. et al v. Director-General, Northern Pacific Railway Co. et al.

A tentative report in this case has been proposed by Examiner Royal McKenna, the syllabus of which is as follows:

"Rates on manganese ore in carloads from Philipsburg, Mont., to Wharton, N. J., and Johnstown, Pa., found to have been unduly prejudicial. Damage not proven, reparation denied and complaint dismissed."

Docket No. 11154—Sligo Iron Store Co. v. W. M. Ry Co. et al.

A tentative report in this case has been proposed by Examiner W. R. McFarland, the syllabus of which is as follows:

"Reparation awarded for unjust and unreasonable charges collected on one shipment of prepared fine smithing coal from Coketon, W. Va., to Lamar, Col."

Docket No. 10078—Lehigh Portland Cement Co. v. Director-General, A. C. L. R. R. Co. et al.

A tentative report in this case has been prepared by Assistant Chief Examiner R. E. Quirk, the syllabus of which is as follows:

"Defendant's refusal to perform the service of switching and spotting cars at complainant's plant beyond the present points of interchange, or to compensate complainant for the performance of such service, not found to be unreasonable, unjustly discriminatory or unduly prejudicial. Complaint dismissed."

Docket No. 11067—Edge Moor Iron Co. v. Director-General, as agent, et al.

A tentative report in this case has been prepared by Examiner W. R. McFarland, the syllabus of which is as follows:

"It will for the future be unjust, unreasonable, unjustly discriminatory and unduly preju-

dicial for the Pennsylvania Co. to fail to perform the *spotting service* at complainant's plant at Edge Moor, Del., or pay a reasonable compensation to complainant for performing it, on interstate shipments under circumstances substantially similar to those under which an allowance is contemporaneously paid to the American Bridge Co. at that point. Failure in the past to perform the spotting service or pay an allowance to complainant for performing it not shown to have been unreasonable or otherwise unlawful. Reparation denied."

Docket No. 10804—Barnett Oil & Gas Co. v. Director-General, L. & N. R. R. Co. et al.

A tentative report in this case has been prepared by Attorney-Examiner A. R. Mackley, the syllabus of which is as follows:

"Rate of 29 cents per hundred pounds for the transportation of *crude petroleum* in tank cars from Irvine and Beattyville, Ky., to Blue Island, Ill., within the Chicago Switching District, found to be unreasonable to the extent that it exceeds 24½ cents. Reparation awarded."

Docket No. 11093—El Paso Chamber of Commerce v. Director-General, O. N. M. & P. Ry. Co. et al.

A tentative report in this case has been prepared by Examiner F. G. Barclay, the syllabus of which is as follows:

"Rate of 95 cents per 100 pounds charged on six carload shipments of gasoline from Wilson, Okla., to El Paso, Texas, found to have been unreasonable to the extent that it exceeded 44.5 cents per 100 pounds. Reparation awarded."

DISMISSALS

Orders have been entered dismissing the following cases, the complaints having been satisfied or request having been received from complainant:

Docket No. 11026—The Prairie Pipe Line Co. v. Director-General, P. & L. E. R. R. Co. et al.

Docket 11029—The Prairie Pipe Line Co. v. Director-General, G. & O. R. R. Co. et al.

Docket No. 10897—Old Ben Coal Corporation v. Director-General, I. C. R. R. Co. et al.

Docket No. 10785—Central Refining Co. v. Director-General et al.

Docket No. 11155—Shaffer Oil & Refining Co. v. Director-General et al.

Docket No. 11182—Joseph I. Lieberman Iron Co. v. Director-General et al.

REOPENED CASES

Orders have been entered reopening the following cases for further hearing:

Docket No. 10176 (and Subs. Nos. 1 and 2)—Quinton Spelter Co. v. F. S. & W. R. R. Co. et al.

Docket No. 10498—Roxana Petroleum Co. of Oklahoma v. Director-General et al.

RELEASED RATES ORDERS

No. 99—Ore, Concentrates, Sulphurets, Lead Bullion, Base Lead Bullion, Base Metal, Copper Matte, Bar Copper and Black Copper, in Carloads, from Points in California, Nevada and Utah to San Francisco, Selby & Peyton, California. This order, entered March 31, is responsive to 20th Section Application No. 182, filed by the Western Pacific Railroad Co. for and on behalf of itself and E. V. Rideout Co. and Crawley Launch and Tugboat Co., participating carriers in Western Pacific Railroad Tariff I. C. C. No. 221. It authorizes the carriers concerned to establish, upon not less than 30 days' notice, rates on ore, concentrates, sulphurets, lead bullion, base lead bullion, base metal, copper matte, bar copper and black copper, in carloads, shipped in interstate commerce, dependent upon value declared in writing by the shipper or agreed upon in writing as the released value of the property.

No. 100—Ore in Carloads from El Paso, Tex., to Waldo, New Mexico. This order, entered April 2, is responsive to 20th Section Application No. 145, filed by the Santa Fe Railroad. It authorizes the petitioner to establish, upon not less than 10 days' notice, and to thereafter maintain until otherwise ordered by the Commission, rates on ore, in carloads, from El Paso, Tex., to Waldo, New Mexico, shipped in interstate commerce, dependent upon value declared in writing by the shipper or agreed upon in writing as the released value of the property.

No. 103—Ore, Concentrates, Bullion, Pig Lead, Copper Matte, Copper Ingot, Pig Copper, Copper Residue, Arsenical Fumes or Dust, Dross, Spelter, Mill Tailings and Slag between Points in Utah, Colorado, New Mexico, Oklahoma and other Eastern Points. This order, entered April 16, is responsive to 20th Section Application No. 168, filed by the Denver & Rio Grande Railroad for and on behalf of itself and various other carriers. It authorizes the petitioners to establish and maintain rates on ore, concentrates, bullion, pig lead, copper matte, copper ingot, pig copper, copper residue, arsenical fumes or dust, dross, spelter, mill

tailings and slag, in carloads, shipped in interstate commerce, dependent upon value declared in writing by the shipper or agreed upon in writing as the released value of the property.

No. 104—Ore and Concentrates, in Carloads, from Johannesburg and San Diego, Cal., to Humboldt, Ariz. This order, entered April 17, is responsive to 20th Section Application No. 152, filed by the Santa Fe Railway Co. It authorizes the petitioner to establish upon not less than one day's notice to the Commission and to the general public by filing and posting in the manner prescribed in Section 6 of the Interstate Commerce Act, and to thereafter maintain, until otherwise ordered by the Commission, rates on ore and concentrates, in carloads, shipped in interstate commerce, dependent upon value declared in writing by the shipper or agreed upon in writing as the released value of the property.

No. 105—Ore, Concentrates, Copper Precipitates, Sulphurets, Slag and Ore Slimes from Points in California, Nevada and Utah, to Points in Utah and Colorado. This order, entered April 21, is responsive to 20th Section Application No. 138, filed by the Western Pacific Railroad Co. on behalf of itself and various other carriers participating in Western Pacific Railroad Co. Tariff I. C. C. No. 206. It authorizes the establishment, upon not less than 30 days' notice, of rates on ore, concentrates, copper, precipitates, sulphurets, slag and ore slimes, in carloads, shipped in interstate commerce, dependent upon value declared in writing by the shipper or agreed upon in writing as the released value of the property.

No. 41—Coal from Williamsport and Powells Bend, Md. (ex. canal). This order, entered March 30, 1920, is responsive to Applications Nos. 92 and 123, filed by the Western Maryland Railway Co. and the Pennsylvania Railroad Co. It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on *bituminous coal*, carloads, from Williamsport, Md. (Ex. Canal), to stations on the Western Maryland Railway from Powells Bend, Md. (ex. canal), to stations on the Pennsylvania Railroad and the Cumberland Valley & Martinsburg Railroad.

No. 46—Ore and Concentrates. This order, entered March 31, is responsive to Application No. 170, filed by the Tonopah & Goldfield Railroad Co. It approves for filing, without formal hearing, upon not less than one day's notice, reduced intrastate commodity rates on ore and concentrates, carloads, from Mina to Millers and Tonopah, Nev.

No. 48—Coal and Furnace Limestone from Neville Island, Pa. This order, entered April 1, is responsive to Application No. 159, filed by the Pittsburgh & Lake Erie Railroad Co.

It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on *bituminous coal* and furnace limestone, carloads, from Emergency Stock Piles at Neville Island, Pa., to Pittsburgh and Woodlawn, Pa.

No. 50—Iron Ore to Ashland, Ky. This order, entered April 1, is responsive to Application No. 134, filed by the Toledo & Ohio Central Railway. It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on *iron ore* (ex. lake), carloads, handled over the docks of its line at Toledo, O., to Ashland, Ky., in connection with the Chesapeake & Ohio Northern Railway and Chesapeake & Ohio Railway.

No. 61—Commodity Rates from New York, New Haven & Hartford Railroad Stations to East Berlin, Conn. This order, entered April 6, is responsive to Application No. 62, filed by the N. Y., N. H. & H. R. R. Co. It approves for filing, without formal hearing, reduced commodity rates on ashes, brass or copper; concentrates; dross, lead or zinc, scale, brass; scrap, lead or zinc; skimmings, lead or zinc, slag, brass or iron, sweepings, brass foundry, from stations on the N. Y., N. H. & H. R. R. Co. to East Berlin, Conn.

No. 60—Coal and Coke from Dawson, N. M., to Points in New Mexico and Texas. This order, entered April 6, is responsive to Application No. 104, filed by the Santa Fe Railway. It approves for filing, without formal hearing, reduced rates on *coal and coke*, carloads, from Dawson, N. M., to points on the Buffalo & Northwestern Railroad, Roscoe, Snyder & Pacific Railway and points in Texas on the Gulf, Colorado & Santa Fe Railway.

No. 75—Coal to Decatur, Ill. This order, entered April 6, is responsive to Application No. 44, filed by the Illinois Traction System. It approves for filing, without formal hearing, subject to State laws, and upon not less than one day's notice, reduced rates on *fine coal* from mines in the Springfield District to Decatur, Ill.

No. 118—Crude Petroleum from Oklahoma to Roxana, Ill. This order, entered April 15, is responsive to Application No. 226, filed by the Indianahoma Pipe Line Co. It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on *crude petroleum* from points on petitioner's line in Oklahoma to Roxana, Ill.

No. 90—Pyrites Cinder and Nodules. This order is responsive to Application No. 103, filed by the Chesapeake & Ohio Railway. It approves for filing without formal hearing,

subject to State laws, reduced rates on pyrites cinder and nodules between Glenvilton and Reusens, Va.

No. 116—Crude Oil, Fort Steele, Rock River and Laramie, Wyo., to Chicago District. This order, entered April 15, is responsive to Application No. 325, filed by the Union Pacific Railroad Co. It approves for filing, without formal hearing, upon not less than one day's notice, commodity rates on *crude oil* from Fort Steele, Rock River and Laramie, Wyo., to Chicago, Ill., and points taking same rates.

No. 109—Zinc Ore and Concentrates from New Mexico Points to Canon City, Colo. This order, entered April 14, is responsive to Application No. 117, filed by the Santa Fe Railway. It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on *zinc ore and zinc concentrates*, carloads, from points in New Mexico to Canon City, Colo., providing that in the publication of these rates the rates to intermediate points be revised so as not to exceed the proposed rate to Canon City.

No. 125—Ores and Concentrates, El Paso, Tex., to Waldo, N. M. This order, entered April 15, is responsive to Application No. 176, filed by the Santa Fe Railway. It approves for filing, without formal hearing, reduced rates on *ores and concentrates*, carloads, from El Paso, Tex., (applicable on shipments originating on Galveston, Harrisburg & San Antonio Railroad, east of El Paso, Tex.), to Waldo, N. M.

No. 120—Switching Bituminous Coal to the Government Coal-Handling Plant at Washington, D. C. This order, entered April 16, is responsive to Application No. 217, filed by the Pennsylvania Railroad Co. and the Baltimore & Ohio Railroad Co. It approves for filing, without formal hearing, upon not less than one day's notice, reduced switching charge on *bituminous coal* from Benning, D. C., to the Government coal-handling plant at Washington, D. C.

No. 138—Coal Washed in Transit at Edwardsville, Ill. This order, entered April 19, is responsive to Application No. 66, filed by the Litchfield & Madison Railway Co. It approves for filing, without formal hearing, subject to State laws, and upon not less than one day's notice, reduced rates on *coal*, carloads, from Staunton, Ill., washed in transit at Edwardsville, Ill.

No. 146—Coal from Points in State of Pennsylvania to Points in New York. This order, entered April 20, is responsive to Application No. 137, filed by the Buffalo & Susquehanna Railroad Corporation. It approves for filing, without formal hearing, reduced rates on *coal*, carloads, from points on the line of petitioner

in the State of Pennsylvania to Buffalo and certain destinations in New York.

No. 147—Ores and Concentrates, Johannesburg and San Diego, Cal., to Humboldt, Ariz. This order, entered April 20, is responsive to Application No. 265, filed by the Santa Fe Railway. It approved for filing, without formal hearing, upon not less than one day's notice, reduced rates on *ores and concentrates*, carloads, from Johannesburg and San Diego, Cal., to Humboldt, Ariz.; provided, that in the publication of the proposed reduced rates from Johannesburg, Cal., the existing rates from intermediate points also be revised under authority of Reduced Rate Order No. 4, to not exceed the rate of \$6.30 per ton 2000 pounds from Johannesburg, Cal., to Humboldt, Ariz.

No. 148—Petroleum and Its Products from Baldwin, Kans. This order, entered April 20, is responsive to Application No. 149, filed by the Santa Fe Railway. It approves for filing, without formal hearing, subject to State laws, reduced rates on *petroleum and its products*, carloads, from Baldwin, Kans., to Kansas City, Mo.—Kans.

No. 155—Petroleum from Missouri, Oklahoma and Kansas Points to Points Within the Chicago Switching District. This order, entered April 16, is responsive to Application No. 218 filed by E. B. Boyd and F. A. Leland, agents. It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on *crude petroleum*, carloads, from Missouri, Kansas and Oklahoma producing points to various points within the Chicago switching district.

No. 161—Rates on Bituminous Coal, Carloads, to Conneaut Harbor, Ohio. This order, entered April 22, is responsive to Application No. 310, filed by the Pennsylvania System. It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on *bituminous coal*, carloads, from points in Pennsylvania to Conneaut Harbor, Ohio.

No. 166—Gypsum Rock and Gypsite from Points in Oklahoma to Continental, Mo. This order, entered April 23, is responsive to Application No. 163, filed by the St. Louis-San Francisco Railway Co. It approves for filing, without formal hearing, reduced rate on *gypsum rock and gypsite*, carloads, from Cement, Ideal, Okeene, Southard and Gladys, Okla., to Continental Mo.

No. 170—Reduced Rate on Pig-iron, Carloads. This order, entered April 23, is responsive to Application No. 185, filed by the Grand Trunk Railway System. It approves for filing, without formal hearing, reduced commodity rate on *pig-iron*, carloads, applicable from Collingwood, Ontario, to Buffalo, Black Rock and Suspension Bridge, N. Y.

No. 165—Coal to Be Coked and Reshipped. This order, entered April 23, is responsive to Application No. 485, filed by the Southern Railway Co. It approves for filing, without formal hearing, subject to State laws, reduced intrastate rates on coal from Bessie Mines, Blossburg, Bookside, Coalburg and Flat-Top, Ala., to North Birmingham, Ala., to be coked and reshipped.

No. 175—Crude Petroleum from Kansas Points to Wood River, Illinois. This order, entered April 24, is responsive to Application No. 412, filed by the Empire Pipe Line Co. It approves for filing, without formal hearing, upon not less than one day's notice, reduced rates on crude petroleum from Elbing, Boyer and Walnut Stations, Kansas, to Wood River, Illinois.

No. 174—Coke, Bowling Green, Ky., to Memphis, Tenn. This order, entered April 24, is responsive to Application No. 270, filed by the Louisville & Nashville Railroad Co. It approves for filing, without formal hearing, upon not less than one day's notice, commodity rates on coke from Bowling Green, Ky., to Memphis, Tenn.

No. 171—Allowances for use of Private Cars. This order, entered April 23, is responsive to Application No. 133, filed by C. B. Guthrie, agent, L. & N. R. R. It approves for filing, without formal hearing, upon not less than five days' notice, increased allowances to owners, other than common carriers for use of railway equipment.

No. 176—Anthracite Coal Screenings, Coke Breeze or Coke Dust from Chicago, Ill., to Beckemeyer, Ill. This order, entered April 23, is responsive to Application No. 277, filed by the C. & E. I. R. R. Approves for filing, without formal hearing, subject to State requirements and upon not less than one day's notice, reduced rates on anthracite coal screenings, coke breeze or coke dust, carloads, from Chicago, Ill., to Beckemeyer, Ill.

GOVERNMENT TO DISTRIBUTE PART OF NITRATE RESERVE

The President has signed the bill providing for the distribution of 100,000 tons of the Government's reserve of nitrate of soda. The War Department is proceeding to carry out the purposes of the act, and is selling this fertilizer ingredient to distributors and users. The step is necessary to meet a serious shortage of fertilizer.

The passage of the bill referred to above and the certainty that the Senate will pass a bill providing for the operation of the Muscle Shoals nitrate plant is having an important bearing on the Chilean nitrate situation.

INDUSTRIAL NOTES

Increased business has made it necessary for the Federal Electric Co. of Chicago to move from its present quarters at Lake and Desplaines streets to a new plant which it has erected at 87th and State streets.

The new location will permit the creation of baseball and tennis grounds, which will give its hundreds of employees opportunities for recreation.

Among the products manufactured by the Federal Electric Co. are signs, dishwashers, washing machines, fuses, sirens, vacuum cleaners, electric lanterns, porcelain sockets and bushings.

The Federal Electric Co. was incorporated in 1901 for the purpose of manufacturing and selling signs. It early saw that it could fill an urgent demand by renting signs. The Chicago Edison Company, predecessors of the Commonwealth Edison Company, had already started this business in Chicago, using signs manufactured by the Federal Electric Co. In 1905 the Federal Sign System (Electric) was incorporated for the purpose of carrying on the sign-renting business. Its principal function was to sell and rent signs made by the Federal Electric Co. It was made the exclusive agent for the Eastern territory.

A second office was established in Cincinnati. Other offices were soon established in 20 other cities.

In the development of the sign a special socket was made, known as the Federal Sign Socket, which has been used exclusively and continuously ever since.

The sale of municipal fire-alarm and industrial sirens, which cost from \$40 to \$500 apiece, have increased from one a week to 25 a week. Reasons for the success of the Federal Electric Co.'s products are, of course, the excellency of the product, but also the splendid sales force headed by C. B. Graves, sales manager, who has affected one of the most efficient sales organizations of its kind in the country.

Eight commodities are sold, but each of the eight are sold by separate sales divisions headed by an assistant to the sales manager. Each division has the co-operation of the other divisions.

John F. Gilchrist is the president of the company; James M. Gilchrist is secretary and treasurer, and Herbert L. Markham is general manager. Samuel Insull, president of the Commonwealth Edison Company, is chairman of the board of directors.

On April 26 the New York office of the Electric Storage Battery Co. will move from its present location, at 100 Broadway, which it has occupied for approximately a quarter of a century, to the National Association Building, 23-31 W. 43d street.

In discussing the change of headquarters, Mr. F. L. Kellogg, manager of the New York office, emphasized the fact that the necessity of

the move has been brought about by a natural growth in domestic business as well as a rapid increase of the company's business for export. The new offices provide larger quarters and more adequate facilities for properly taking care of customers' needs.

In connection with this removal, it is interesting to note that the Electric Storage Battery Co., with the factory located in Philadelphia, is the largest manufacturer of storage batteries in the world, as well as the oldest manufacturer of storage batteries in this country. The products of the Electric Storage Battery Co. are known as the "Chloride Accumulator," "Exide," "Thin Exide," "Hycap Exide" and "Ironclad Exide" batteries.

For 32 years the Electric Storage Battery Co. has specialized in the building of storage batteries, and has from its very beginning, in 1888, occupied the foremost place in storage battery development in America. Batteries manufactured by his company are used in every field where the application of storage battery power is a factor of importance.

Upon an agreed statement of facts, the Federal Trade Commission has ruled that the Electric Appliance Co. of Burlington, Kans., respondent in formal complaint issued by the Commission, refrain from certain unfair methods of competition in the manufacture and sale of electrical appliances, such as electric belts, batteries and electric insoles in interstate commerce. The Commission's order is directed to the company's practice of marking its advertising matter in such a manner as to lead the public to believe that its products are manufactured by concerns other than respondent.

The Morse Chain Co., Ithaca, N. Y., have moved their offices from Greensboro, N. C., to Charlotte, N. C., 404 Commercial Bank Building.

Mr. George W. Pritchett, their genial and well-known Southeastern manager, has found this change advisable owing to the great increase in use of Morse Silent Chains throughout every branch of textile industry, which has been having such a phenomenal growth, necessitating the building of new mills and increasing the capacity of all the Southern mills. Large and commodious new quarters have been secured where they will have complete exhibit of chain drives in operating order.

Mr. H. E. Matthews continues with the company, and will be found always ready to answer questions and to show Morse drives to all inquirers.

A new compressed air operated drill steel sharpener machine, known as I-R No. 50 Sharpener, has been developed by the Ingersoll-Rand Company, 11 Broadway, New York. This machine embodies a number of new and distinctive features, some of which are included in the description given below.

This sharpener was designed primarily to

rapidly and exactly sharpen and shank drill steel, such as cruciform steel up to two inches in diameter or round, hexagon, octagon, quarter-octagon, auger or spiral steel up to one and seven-eighths inches in diameter. However, it has performed so many other tasks that "Drill Steel Sharpener" is almost a misnomer. When fitted with special devices it will forge boltheads, pins, stanchions, etc.; in fact, nearly 200 different products have been made by this machine.

The single lever, which controls all of the operations of the machine, is fitted with a safety locking device. This prevents accidents due to the impossibility of operating the machine unless the lock is released—an excellent improvement. The throttle valve is of the balanced spool type, operates easily and quickly, is positive and instantaneous in its action.

The hammer cylinder is an improved valveless type of hammer drill cylinder. This construction permits the free moving hammer to deliver exceedingly fast and powerful blows against the end of the dolly, upsetting the steel and so forming the bits and shanks with extreme rapidity. This may be more easily understood when it is mentioned that its capacity is about 20 per cent. greater than the Leyner No. 5 Sharpener.

Postal Service Loses Trained Men

Facts concerning the condition of the postal service throughout the nation have been presented to President Wilson by a delegation representing the National Federation of Postoffice Clerks.

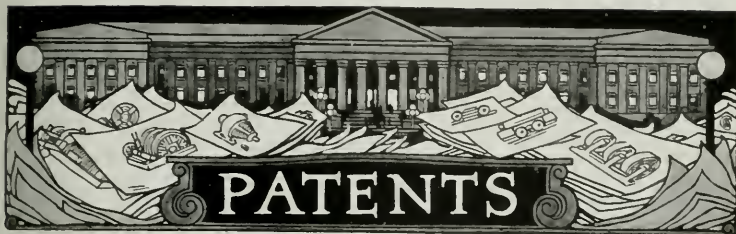
Mail matter, especially in Chicago and the other large centers, is seriously delayed because of the shortage of help in the post-offices. Instances were cited where circular matter was delivered weeks after the sale it was advertising had taken place.

It takes years to train expert mail distributors. When any number of these postal workers leave the service, as they are now doing, it is reflected in a slowing up of the mails and the large number of missent letters and papers. Unless the present exodus is stopped, the service efficiency for many years to come will suffer, it was declared.

It is difficult to arouse public interest in the postal labor problem, it was pointed out. The average mail patron views the service as an automatic machine that functions without human labor.

Bunkering Facilities Asked

Coal bunkering facilities for American vessels at St. Thomas, Virgin Islands, are recommended by the Joint Congressional Committee which recently visited the Islands, consisting of Senators Kenyon, Edge and Gay, and Representatives Towner, Garrett and Campbell.



CONDUCTED BY JOHN BOYLE, JR.

1,332,305—*William Ross*, Montreal, Canada.
Grizzly for Ore Separation provided with substantially horizontal main grizzly bars adapted to be moved in a closed substantially vertical orbit and intermediate grizzly bars connected independently of the main bars and also adapted to be moved in a closed substantially vertical orbit larger than the orbit of the main bars.

1,332,333—*Ralph Gregory*, Kansas City, Mo.
 Assigned to Oil Well Reclamation Co.

Oil Well Pump of the class employing a fluid piston, and the special object is to produce a pump having a barrel made up of sections to accommodate it to well casings of and length, means to provide a fluid-tight chamber between the casing and barrel, extending from above the level of the oil to a plane near the lower end of the casing, a check valve to admit oil to the fluid-tight chamber and retain part of it therein in the interim between discharges of oil by pump, and a compressed air pipe for supplying pressure on the oil in the airtight chamber to effect the discharge of most of the oil therefrom.

1,332,334—*Ralph Gregory*, Kansas City, Mo.
 Assigned to Oil Well Reclamation Co.

Automatic Oil Pump for raising liquid by applying fluid under pressure preferably air, to the surface of the liquid in a confined space, causing the liquid to be displaced upwardly in a pipe, and the object is the provision of means which shall operate automatically and can be placed in the well near the lower end of the uptake pipe.

1,332,373—*Charles Zoog*, Gary, Ind., and *John Mutch*, Fairport Harbor, Ohio.

Ore Bin Locking Device and operating means for facilitating the opening and closing of the bin door for controlling the discharge of ore, coal or other materials stored in the bin and adapted to be delivered by gravity through the door when open into cars for shipment.

1,332,496—*Elwood D. Hiatt*, Broken Arrow, Oklahoma.

Well Rig specially designed for pulling or manipulating casing, tubing, pumping or sucker rods, etc.

1,332,510—*Archibald F. Meston*, New York.
 Assigned to Research Corp.

Device for Protecting Insulators in Electric Precipitators by using the high voltage current itself to furnish an electric shield.

1,332,537—*Frank W. Bccraft* and *Albert L. Genter*, Salt Lake City.

1,332,542—*William E. Clifford*, Salt Lake City and *Thomas H. Green*, Springfield, Ill.
 Assigned to United Filters Corp.

Sulfur Retort for extracting sulfur from sulfur bearing materials in which there is a cage for the material to be treated revolvably mounted within a housing and movable endwise therefrom for loading and unloading.

1,332,597—*Henry Bolthoff*, Denver, Col.

Head Motion for Concentrating Tables and directed to the particular mechanism for imparting the proper differential movement and involving an operating shaft provided with a part having an elongated opening, a crank pin connected with the table and entering said opening, means for yieldingly supporting the table to cause said pin to assume such a position in said opening that the table is moved in one direction as the shaft rotates, and spring tension means co-operating with the shaft for moving the table in the opposite direction.

1,332,672—*Arthur L. Ligon*, Killeen, Texas.

Deep Well Pump in which the casing of ordinary construction can be fitted to support a removable pump barrel and the seats for the pump without withdrawing the casing.

1,332,745—*Frank J. Oakes*, Indianapolis, Ind. Assigned to the Link Belt Co.

Coal Cutting Chain provided with means for clamping the bit to the link of the chain.

1,332,751—*L. S. Polo*, Tuscon, Ariz.

Hydraulic Ore Classifier involving a vertical zigzag pipe section and an upwardly flowing pulsating current of water therein for concentrating the ore which is fed into the top of the pipe section.

1,332,814—*George R. Delamater*, Haddon Heights, N. J. Assigned to Pennsylvania Crusher Co.

Apparatus for Washing Coal involving a continuous jig screen, the foraminous surface of which is divided into two sections by a transversely upstanding low vertical wall, one of said sections being in the form of a shallow pocket immediately at the receiving end of the screen, and the adjoining portion of the foraminous material extending from said wall to its discharge end.

1,332,863—*William Cottrell*, Los Angeles, California.

Concentrating Table having riffles, means for crowding the stuff transversely toward the tail end, apertures in the riffles opening into spaces there between so as to direct fluid upwardly thereinto.

1,332,864—*William Cottrell*, Los Angeles, California.

Panning Movement for reciprocating tables in which the table carries a head bumper and tail bumper co-operating with a stationary head buffer and tail buffer and spring means for holding the head bumper in contact with the head buffer.

1,332,967—*John O. Bardill*, Edwards, N. Y.

Ore Sizing apparatus which will permit the use of a screen made up of finer wires than are used in the ordinary trommel. This object is attained by providing for the distribution of a thin layer of ore on the outer surface of a cylindrical screen made of fine wires and causing the finely crushed ore to pass to the interior of the screens where it is caught in a suitable receiver and conducted from the apparatus.

1,332,981—*Georges Gallot*, Paris, and *Paul Poussin*, Pantin, France. Assigned to Societe Purification Industrielle de Gaz.

Electrical Separator for Gases comprising a tubular electrode, a second electrode comprising a wire extending along the axis of the tubular electrode, an insulator for supporting said wire at the end of the apparatus and means adapted to co-operate with one of said electrodes to maintain an elec-

tric field between the separator inlet and said insulator.

1,332,986—*Carl W. Jensen*, Winifred, Mont. **Method and Apparatus for Conducting Mining Operations** involving a plurality of receptacles arranged adjacent to the material to be mined to receive the same, guide doors on said receptacles to direct material thereinto, a draft cable to be connected to each door and a stop in the path of said receptacles.

1,333,001—*Alvin P. Standefer*, Miami, Okla. **Ore Concentrating Jig** wherein each cell of the hutch is independent of any other cell and the ore does not pass successively from cell to cell.

1,333,101—*Jos. Stonebreaker*, McGill, Nev. **Ore Sampler** in which samples of ore may be taken automatically and at desired intervals.

1,333,197—*William O. Arzinger*, Nashville, Tennessee.

Sand Separator for pneumatically separating sand or grit from graphite in the process of refining the latter.

1,333,219—*Morley P. Reynolds*. Assigned to W. S. Tyler Co., Cleveland, Ohio.

Screening Apparatus involving a uniformly tensioned vibratory woven wire screen and a vibrating bar mounted across and in contact with said screen, said bar being highly resilient and being adapted to vibrate said screen when distorted.

1,333,325—*Frank R. McGee*, Steubenville, Ohio.

Apparatus for Cleaning Gases involving means for imparting a whirling motion to gases entering the separator pipe to thereby separate the gases into a central core of clean gases and a peripheral layer of impurity laden gases and means arranged to receive and separate said impure gases from the clean gases.

1,333,332—*Walter S. Rockwell*, New York, N. Y. Assigned to W. S. Rockwell Co.

Composite Lining for Rotary Furnaces comprising a cylindrical furnace shell, a firebrick lining next the shell and a metallic rib formed in sections projected inwardly from the lining and disposed spirally upon the length of the furnace to form a feeding channel therein.

1,333,303—*Edwin Edser* and *Stanley Tucker*, London, England. Assigned to Minerals Separation North American Corp.

Water Softening Process consisting in precipitating the dissolved salts which produced the hardness, adding a small propor-

tion of a mineral frothing agent, agitating and creating the mixture for the formation of a flotation froth carrying the precipitated salts and removing the froth.

1,333,627—*Edmund C. Morgan*, New York, New York.

Mining Machine for producing a cut in the material to be mined so as to dislodge such material and means coacting with the said mining machine to remove the dislodged material directly after being mined to a mine car.

1,333,688—*Henry L. Solomon and Hugh F. K. Pickard*, London. Assigned to Minerals Separation Limited, London, England.

Recovering Copper by the flotation process which consists in adding to the pulp a precipitant containing ferrous sulphide and calcium sulphide in quantities sufficient to precipitate any copper in solution, acidifying the pulp and thereafter floating the copper in the pulp and the copper precipitate.

1,333,712—*Frank Groch*, Cobalt, Canada.

Ore Concentrator for use in froth flotation and directed to aerating the pulp by causing the fluid pulp to be broken up into streams and aerated before it enters the settling vessel.

1,333,727—*T. F. Philippi*, East St. Louis, Ill.
Crusher in which the main body of the crushing ring of the hammer is made of chilled cast iron and reinforced with a ring of cast steel.

1,333,790—*Linn Bradley*, East Orange, N. J. Assigned to Research Corporation, N. Y.

Electrical Precipitator for Gas comprising a plurality of rigid vertically arranged discharge electrodes, a plurality of opposing electrodes, an insulating frame above said opposing electrodes, an insulating frame below said opposing electrodes, said discharge electrodes being connected at their upper and lower ends, respectively, to said insulated frames above and below said opposing electrodes.

1,333,921—*George M. Johnson*, McDonald.
Mine Shaft Safety Device for use in connection with lander and car feed controlling mechanisms for mine cages.

1,333,922—*Peter F. Johnson and Arthur L. Firpo*, Rutherford, Cal.

Dry Concentrator in which by the action of air and a reciprocating table, a continuous separating action is attained in which the heavy particles will be delivered to a series of concentrating hoppers and the lighter discharged as tailings.

1,334,170—*Walter Runge*, Orange, N. J. Assigned to International Coal Products Co. Richmond, Va.

Briquetting Lignite by mixing pitch therewith, partially carbonizing the mixture, crushing the residue resulting from said carbonizing, forming briquets therefrom, and carbonizing the briquets.

1,334,180—*Charles H. Smith*, Short Hills, N. J. Assigned to International Coal Products Co.

Manufacture of Coal Briquets by mixing non-caking bituminous coal, coking coal and pitch in certain proportion, briquetting and carbonizing.

1,334,331—*Felix A. Vogel*, New York, N. Y. Assigned to General Briquetting Co.

Briquetting Ores by mixing with coal or coke and tar and intimating, grinding and mixing the ingredients together.

1,334,333—*D. C. Bowen and J. F. Walker*, Johannesburg, Transvaal, S. A.

Means for Steaming Amalgamating Plates in which escape of mercury fumes into the atmosphere is prevented by means of a cover placed over the plate and provided with an inlet for steam.

1,334,420—*Jos. T. Terry, Jr.*, Salt Lake City, Utah. Assigned to Terry Mining and Metallurgical Corporation.

Flotation Process consisting in treating the pulp in a solution of copper ammonium salt and a frothing agent.

1,334,454—*S. H. Hunt*, Milwaukee, Wis.

Ore Loader in which the conveying mechanism can be laterally swung from side to side of its supporting truck, the delivery end of said conveying mechanism extending beyond the truck so that a car can be placed thereunder and at the same time to so mount the conveying mechanism that its delivery end will maintain a central position, irrespective of the lateral disposition thereof with respect to the supporting truck.

1,334,524—*Emil Deister*, Fort Wayne, Ind. Assigned to Deister Machine Co.

Concentrating Table utilizing riffles of sufficient height to permit maintenance of a constant line of separation and low closely adjacent riffles or corrugations for the segregation of values passing over the main riffles with the sand.

1,334,720—*J. W. Thompson*, Superior, Ariz., and *J. T. Terry, Jr.*, Salt Lake City, Utah. Assigned to Metals Recovery Co.

Sulfidation and Flotation of Minerals in which the hydrogen sulfide is introduced di-

rectly into the suction side of a centrifugal pump. Overcomes the objections of sulfidation in open tanks and uses less gas.

1,334,721—*J. W. Thompson*, Superior, Ariz. Assigned to Metals Recovery Co. N. Y.

Sulfidation and Flotation of Ores in which the ore after sulfidation is submitted to a preliminary aeration and a partial vacuum before effecting flotation.

1,334,733—*J. M. Callow*, Salt Lake City, Utah; *J. W. Thompson*, Superior, Ariz., and *J. T. Terry, Jr.*, Salt Lake City, Utah. Assigned to Metals Recovery Co.

Sulfidation and Flotation of Ores which comprises subjecting the ore pulp to a combined sulfidizing and frothing agent treatment for effecting the sulfidizing of the oxidized constituents and the simultaneous intermixture of the frothing agent therewith and thereafter subjecting the pulp thus treated to froth flotation.

1,334,734—*J. M. Callow*, Salt Lake City, Utah; *J. W. Thompson*, Superior, Ariz., and *J. T. Terry, Jr.*, Salt Lake City, Utah. Assigned to Metals Recovery Co.

Sulfidation and Flotation of Ores which comprises subjecting the pulp to a preliminary intermixture with a frothing agent, subjecting the pulp thus treated to sulfidation and subjecting the sulfidized pulp to flotation.

1,334,841—*George T. Cooley*, Joplin, Mo.

Jig provided with a hutch and screens thereabove, of helical rotary agitators, the helical wings of which are arranged parallel to the axis of rotation located in the hutch in close proximity to and beneath the screens.

1,334,894—*L. H. Eichelberger*, Plainfield, N. J., and *R. A. Walter*, Frostburg, Md. Assigned to Ransome Concrete Machinery Co.

Apparatus for and Method of Mixing involving the forming of posts of cementitious material and of height varying according to the height of the room from which the material has been removed, in the space left by said removal.

1,334,940—*A. C. Auden*, London, England.

Method of Extracting Potassium Salts from Potassium Bearing Minerals.

1,334,981—*Frederick W. Wood*, Baltimore, Maryland.

Briquetting Ores consisting in adjusting the contents of the hygroscopic water in the ore to between 14 and 20 per cent to prevent the ore from adhering strongly to the compressing surfaces.

1,375,000—*H. B. Hozland*, Duluth, Minn.,

and *G. B. Frankforter*, Minneapolis, Minn.

Flotation Process comprising subjecting the ore to the action of a solvent, precipitating the dissolved metal as sulfide in the presence of gangue, and separating the sulfide by flotation.

1,335,001—*H. B. Hozland*, Duluth, Minn., and *G. B. Frankforter*, Minneapolis, Minn.

Metallurgical Process comprising roasting the ore to oxidize the metal, converting the oxidized metal into sulfide and separating the sulfidized material by flotation.

1,335,255—*C. H. Payne*, Soddy, Tenn.

Mine Door automatically operated by the passage of the cars.

1,335,271—*Emile C. Bracq*, Paris, France.

Pyrites Furnace having superposed hearths and rotary scraper arms detachably mounted, and driving mechanism at the lower part of the furnace.

1,335,474—*C. H. Benedict* and *H. C. Kenny*, Lake Linden, Mich.

Treating Copper Bearing Sands by disposing the sand in the form of a bed, extracting the copper by an ammoniacal solvent, steaming the bed and then vaporizing water in the heater bed under less than atmospheric pressure to recover absorbed ammonia.

1,335,490—*Franz Fourage*, Swansea, Wales.

Roasting Furnace with superposed hearths and reciprocating rakes and constructed to prevent clogging or jamming the rakes.

1,335,600—*R. J. Piersol*, Englemin, Cal.

Flotation Apparatus directed to agitating and aerating the pulp.

1,335,612—*August Seinsche*, Milwaukee, Ore.

Gold Separator for recovering free gold by means of an oil-covered traveling apron.

"Golden Week"

All jewelry and other articles of gold manufacture found in the course of a search of practically all houses in Petrograd were recently appropriated by the Bolshevik authorities of that city for the purpose of providing compensation to the Bolshevik commissars and other prominent men in that regime, according to State Department advices. The confiscation of valuable articles in this authorized raid on homes in the old Russian capital was so general that it was referred to in Petrograd as "Golden Week." While the wholesale confiscation was in progress under the directions of the Bolshevik regime, guards stationed by them encircled the city.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

FREEDOM!

Gompers, Foster, Howatt and other "labor leaders" complain much of the "serfdom" of American wage-earners. They hold for the Divine Right of Labor to use the strike whenever and wherever they, as leaders, decide to bring the pernicious system into play. Haywood and his motley crew of I. W. W. SABOTAGISTS agree with their less radical "brothers," because the strike, once called, is to them a convenient tool for developing more destruction and increasing the number of malcontents. The difference between the two groups is that the first, named the "conservative" leaders, would deny that they are destructionists, while the latter group boast of holding the laws of society in utter disregard.

Gompers designates the men who deny his theory of "Divine Right" as enemies of society—unfair to labor. Haywood brands the man with enough money to be in business for himself as a common enemy of the people. You see, it all depends upon the viewpoint, after all, for there are those, fully as unbiased and intelligent, whose performance of the duties of American citizenship entitle them to consideration, who say that both men and their groups are dangerous in their attitude toward law and capital.

The radicals want a "proletarian" rule, "the people," in their case, being the "producers," as differentiated from the "capitalists" who own lands and control industry. The conservatives, on the other hand, combat the commune idea. All they want is control by union labor

of politics, industry and finance. They are wise enough to prefer a "poor" form of government, under properly unionized conditions, rather than a government with no machinery except the commune.

The American stomach has turned at the thought of becoming Russianized, and the digestive organs of the 85 per cent. of non-union citizens are beginning to feel a touch of *mal de mer* at the insistence of the other 15 per cent. upon controlling the administrative machinery of the Government in order to put over a "Labor" program.

It might be a good idea for our American reformers to note how Trotzky handles "labor" since the laws of the Russian "proletariat" have been placed in his care.

THE SOLDIERS' BONUS BILL

There is every sentimental reason for Congress to grant a bonus to soldiers. It is one of those things that we as Americans really like to do. It has behind it the same sentimental considerations that made possible so much wholehearted and often misguided war-time activity. Even some of the soldiers want this bonus bill to pass. Not all of them, not even the majority.

Our huge plan of War Risk Insurance was designed to cover by adequate payment death and disability of men in service. The Government accomplished this in a manner more swift and thorough in its action than the compensation in any private industry, a new record for any Government. Vocational training is

being given to men who since being in service are in a physical condition that makes a change from their former vocation desirable. Six hundred and forty-one thousand men were discharged from service with disability ratings. Two hundred thousand additional were discharged immediately on being called to service on account of disability. Under the present law these men also are entitled to medical and other benefits. The Public Health Service requirements for next year are \$45,000,000. The present expenditures of the United States Government on behalf of disabled soldiers are \$350,000,000 per year. This amount will increase each year for several years to come. These statistics are given to show that the United States is meeting its obligation to the men whom the war has adversely affected.

Every man who went overseas and came back unscathed physically is better off in every way than the man who did not go. Industry has absorbed these returning soldiers without approaching its saturation point. There is no present unemployment to provide against. If unemployment comes in the future, we must all suffer alike. A quick way to hasten a condition carrying unemployment would be by the passage of this very measure. The distribution of a large cash bonus to 4,000,000 of our male population would not make for increased industrial productivity, and increased productivity is what we need at this critical time.

THE WAR MINERALS RELIEF SITUATION.

With the prospects for a jam of legislation prior to the recessing of Congress, urgent need for facilitating the War Minerals Relief amendment was seen. While absent from Washington Senator Poindexter, through Senator Sterling, introduced the identical War Minerals Relief Bill as unanimously reported in the House. This bill was referred to the Committee on Mines and Mining, and on May 28 Senator Poindexter, as Chairman

of the Senate Committee on Mines and Mining, favorably reported to the Senate, with a strong recommendation for its passage, his bill (Senate 4259), authorizing dissatisfied claimants under the War Minerals Relief Law to appeal their cases to the Court of Claims and the Supreme Court of the United States.

The Committee amended the bill by changing Clause B to read as follows:

"The Court of Claims is hereby vested with jurisdiction to determine such claims in accordance with the provision of Section 5, and to render judgment for such amount as it finds to be justly and equitably due to any claimant on account of such losses under the terms of said Section 5. From the final judgment of the Court of Claims in cases arising under this Act an appeal shall lie to the Supreme Court of the United States in the manner provided in Sections 242 and 243 of the Judicial Code."

In his report urging passage of the bill, Senator Poindexter says:

"This bill is an amendment of the Act entitled 'An Act to Provide Relief in Cases of Contracts Connected with the Prosecution of the War and for Other Purposes, approved February 2, 1919.' Section 1 of that Act authorized the Secretary of War to adjust, pay or discharge any claim, express or implied, upon a fair and equitable basis that has been entered into in good faith during the present emergency. * * * for the acquisition of lands or the use thereof, or for damages resulting from notice by the Government of its intention to acquire or use such lands for the production, manufacture, sale, acquisition or control of the equipment, materials, or supplies, or for service, or for facilities or other purposes connected with the prosecution of the war," etc.

"Under Section 2 of the Act the Court of Claims was given jurisdiction to adjudicate the claim of any claimant who shall not be willing to accept the judgment, payment or compensation offered by the Secretary of War," etc.

"Section 5 of the Act of February 2, 1919, made a similar provision for the adjustment and settlement by the Secretary of the Interior of 'such net losses as have been suffered by any person, firm or corporation by reason of producing, or preparing to produce, either manganese, chrome, pyrites or tungsten, in compliance with the request or demand of the Department of the Interior, the War Industries Board, the War Trade Board, the Shipping Board, or the Emergency Fleet Corporation, to supply the urgent needs of the nation in the prosecution of the war.'"

"The Act, however, omitted to confer upon the Court of Claims jurisdiction to hear and determine claims arising under said Section 5 made by those who were not willing to accept the adjudication of the Secretary of the Interior as was provided in case of those dissatisfied with the adjudication of the Secretary of War in the cases referred to in Section 1."

"The purpose of this Act is to put both sets of claimants—claimants for losses due to contracts relating to the sale of lands or the manufacture of supplies or equipment and materials as provided in Section 1, and claimants for losses growing out of mining or preparation for the production of minerals as provided in Section 5, on the same basis as to the right to have their claims adjudicated in some judicial tribunal."

"To deny the latter set of claimants the same due processes of law for the determination of just and equitable claims would be inconsistent with the general policy of the Government, and with the particular policy adopted in the Act referred to, of giving to every citizen a fair opportunity to be heard before an impartial tribunal upon all claims arising out of contracts, express or implied, and also upon all equitable as well as legal rights. The bill will afford such a remedy, and we recommend its adoption."

On Saturday, May 22, the members of the House Mines Committee, headed by Chairman Garland, appeared in a body before the House Rules Committee, requesting immediate action on this amendment in the House. The Rules Committee gave earnest consideration to the necessity of this measure. While no rule was issued, the attitude evinced at the hearing gives the claimants the hope that when Congress reconvenes, this bill will be considered and claimants will be given the right to appeal to the Court of Claims.

The Commission, according to the latest available figures, has awarded partial amounts claimed in 145 claims, amounting to \$1,098,731.83, which is approximately 33 per cent. of the amounts claimed.

The administration expenses to date are close to \$300,000, an average of approximately \$1000 per day for each working day since the beginning of the administration of this bill. The high point of the Commission's activities was in the week of April 24, in which nine

claims were recommended for award, and the low point for the week ending May 15, in which three claims totaling \$3366.70 were recommended for award. The week prior to that there were only two claims recommended for award, but the amount of money involved was larger, being \$8531.02.

The average number of claims passed for award since the beginning of the administration of this Act has been one claim for every two working days. The 145 claims have been passed for award at an administrative expense of between \$275,000 and \$300,000.

THE INCOME TAX SITUATION

According to former Commissioner Roper of the Bureau of Internal Revenue, it is costing the people of the United States \$25,000,000 annually to administer the tax law. An officer of the Internal Revenue Bureau whose duty it is to supervise in a general way the activities of the Bureau estimates that it is costing the business men of the country \$100,000,000 annually in the preparation of their tax returns. This makes a total of \$125,000,000 cash outlay annually in an effort to meet the nation's requirements under the law, a sum greatly augmented by the attorneys' fees, and other expenses in necessary junkets to Washington in efforts to secure adjustments or file protest. It is not unusual for a small corporation to spend from \$2500 to \$10,000 in this way. Probably \$200,000,000 is nearer a correct cost of the annual tax collection.

But this is not the most serious phase of the present tax situation. Corporations are unable to safely estimate their credit standing or proceed with increased development of business, owing to the fact that they do not know the exact amount of their reserve funds or exact assets.

The Government is now collecting daily in excess of a million dollars in re-audits of the tax returns of 1917 alone, the estimate of the Bureau being that from expected returns of this sort the business of the country will pay into the Treasury of the United States \$365,000,000 this year, a sum sufficiently large, when coming in the form of an unexpected debt, to stagger the industry of the country, especially when it is realized that later returns are still to be audited, with a possibility of a duplication to some extent of the unexpected taxes now being levied for 1917.

The result of all this is that no bank can pass finally and favorably upon an application for credit in a large amount until the bank, at the expenditure of considerable time and money, has made a very careful examination into the tax relations of the applicant with the Government. Scarcely a day passes but it is found that as a result of this peculiar and embarrassing confusion, concerns very greatly in need of credit and whose business is of such a nature that development and enlargement should be encouraged are turned down by the banking houses of the country and left on the verge of bankruptcy. This is not a particularly pleasing situation in times of financial instability.

A peculiar condition resulting from the attempt to administer an almost unworkable tax law is that scarcely a day passes but some special expert of the Revenue Bureau makes final report upon the tax returns of some corporation, finding large sums of money still due to the Government under the law. In many cases this unexpected tax reaches as high as a million dollars. In a few cases the re-audit tax has reached \$10,000,000. It is not unusual to double the tax originally paid. The Revenue Bureau finds the taxpayer bitterly disappointed at being forced to meet an unexpected liability.

It may not be generally known throughout the country, but it is well

known in Washington that the administrators of the law are thoroughly dissatisfied with the complexities and perplexities continually confronting them, and the fact that they are always forced into the position of apparently endeavoring to give the taxpayer the "worst of the deal." Individually and collectively we believe the officers and employees of the Bureau of Internal Revenue (and there are 17,000 of them) endeavor to do the right and just thing within the law, but the problems are so complex and the impossibility of applying a general rule or decision or plan of administration to the various taxpayers so generally recognized that always there is a feeling of friction, discord and general dissatisfaction which can never be eliminated—and this is admitted openly by leading officers in the Administration.

Five thousand carefully selected men are now handling tax problems in the Internal Revenue Bureau in Washington. Twelve thousand men are in the field making examinations. The 1917 tax returns are but partially audited. Twenty millions is being spent annually in wages alone for these experts, and yet no effort has been made, and probably none will be, to audit the personal returns representing the incomes from \$5000 downward. To pay any attention to the smaller returns would make necessary an additional 5000 expert auditors, and the money which might be received from the re-audits would probably be absorbed many times by the added necessary administrative machinery.

The Commissioner of Internal Revenue is now ready and anxious to co-operate with the country in the reorganization of the whole tax system, and it is hoped the business organizations will stand together as a unit in making possible the creation of a businesslike law, a businesslike administration and the elimination of theories and selfishness in this whole connection.

INCOME TAX LAW REVISION

The members of the American Mining Congress are well aware of the fact that there was recently held a national conference of business organizations in Chicago. At this conference, which was assembled at the urgent request of the National Industrial Conference Board, the American Petroleum Institute and the American Mining Congress, there was organized a National Tax Committee, its membership including five members already selected by the National Industrial Conference Board and one representative each from the various groups of specialized business organizations or divisions of industry represented in the conference not holding membership in the National Industrial Conference Board.

These 16 men elected by the Chicago conference were authorized to increase the membership of their own committee as they saw fit and necessary, and after having two meetings in New York it has finally been decided to invite certain other organizations to participate, giving a total membership to the committee of probably 25. It has been hoped, and still is, that this National Conference Tax Committee, as it will be known, will be looked upon as an organization representing the business interests of the country, willing to stand together as a unit in this effort to clear the tax situation. There are now four other independent movements under way, and an effort will be made to consolidate all of them.

One, the United States Chamber of Commerce, has been asked by some of its members to issue the usual referendum for the purpose of securing the expression of the business men of the nation as to necessary changes in the law. Another, the National Credit Men's Association, has been doing splendid research work, and has compiled some valuable statistics. Another, the National Business Men's Tax Committee, composed largely up to the present time of

the manufacturing jewelers of the country, has long been endeavoring to gather about itself other forces in combination. The National Single Tax Organization is busy with its propaganda, as it always has been, in connection with tax matters. It seems the part of good business to do away with divisions and individual opinions at this time.

An effort to consolidate all tax activities at this time, if successful, will justify and probably lead to Government co-operation with the business men of the country in preparing, first, a workable tax law, and, second, and fully as important, a scheme of administration through which not only will the Government be financed, but the business men of the country will place themselves once more upon a safe financial basis while meeting in full their obligations to the country.

Some of the best tax experts in the country will represent the mining industry on this committee. Paul Armitage of New York, chairman of the American Mining Congress Standing Federal Tax Committee; R. C. Allen of Cleveland, vice-president of the Lake Superior Iron Ore Association, formerly a member of the Advisory Board to the Treasury Department, and also a member of the Mining Congress Tax Committee; Rush C. Butler of Chicago, of the Coal Association, and Harry H. Smith of Oklahoma, of the American Petroleum Institute, are representing the interests of the mining industry. We feel sure these men, although forced to sacrifice a great deal of time and effort in behalf of the industry in this matter, will be performing a national service which will bring to them great credit and make the mining men of the nation their debtors for all time.

WILL LABOR SUCCEED?

The American Federation of Labor, through its self-organized non-partisan political campaign committee, has decided that there must be a house-cleaning on Capitol Hill. Some politicians pooh-

pooh at the idea of Mr. Gompers and his cohorts entering into politics seriously, but Mr. Gompers and his friends of organized labor take themselves seriously. And the most serious part of it is that the business men of the country appear not to admit that there is anything serious about the political activities of the Federation of Labor.

We are prone to talk about the absurdity of an organized 5 per cent. of the citizenship attempting to control either politics or business, and we are prone to think that organized labor cannot produce the quality of political astuteness and far-sightedness necessary to a successful political campaign. But the cold, hard fact is that the average politician, if he is just a politician, hesitates before he flies into the face of what is commonly called "the labor vote," and Mr. Gompers knows this, and Mr. Gompers makes the best of it.

The so-called non-partisan political campaign committee which the American Federation of Labor organized into a political movement is only non-partisan to the extent that it does not care a fig whether a man is a Christian, a Hottentot, a Prohibitionist or a Republican, if he is just sufficiently a tool of labor to carry through whatsoever program labor may desire to present.

And another fact which should not be lost sight of is that IF the Federation of Labor, backed, endorsed, strengthened and financed by a number of elements in the country which desire as much as anything else to try out the wonderful things promised by the laborites succeeds in holding together the vote of its four millions of adherents, plus the various radical elements above mentioned, the business of the country will probably have to deal with a new problem when the next Congress meets.

It seems to us that business has a sufficient load to carry without voluntarily allowing anything else to happen. We say voluntarily because the business men of the United States have had fair warning in plain English, written, printed and published by Mr. Gompers and his asso-

ciates, and if the employers of the country allow a radical labor program to carry, the business of the country will in turn have to pay the bills.

We have yet to read a single expression from Mr. Gompers or anyone else connected with the non-partisan political campaign to the effect that all that labor wants and is working for in this campaign is the election of men who will measure justice in the laws to be passed and administered. We mean justice in the fullest sense of the term, applied alike to labor and capital, to the property owner and the non-property owner, to the great mass of unorganized as well as the 5 per cent. of organized working people. Instead of that, a radical unbendable, uncompromising program is presented by labor.

We have yet to gather from any of the material which has been sent out to the press by the non-partisan committee that there is any intention on the part of labor—as represented by this committee and the Federation of Labor—to admit that there is any possibility of an adjustment of the industrial situation other than the full and complete surrender of employers to the terms imposed in the Federation program. Not one word has been spoken indicating that Mr. Gompers and his associates are willing to sit down with a group of business men to talk over business in a businesslike manner with the intention of meeting the business situation frankly and honestly. These self-appointed non-partisan people have prepared a nice, large guillotine upon which it has already theoretically placed every man in both Houses of Congress and in every State in the Union who, by any of his acts, public or private, has shown an unwillingness to bend upon his bare knee and bow his head to accept the mandates of the labor hierarchy. The records of Congress have been very carefully searched, and every utterance which has appeared in official print checked upon. The non-partisan political committee is very greatly saddened at the thought that the Congress of the United States contains so many men who

are willing to express themselves in such unmistakable terms as being against the domination of union labor. These men have been listed, classified, indexed and theoretically shelved politically. Mr. Gompers and his architects are very busy constructing modern catacombs in which some of the nation's most splendid men and unfortunate members of Congress are to be placed when properly mummified by the election process.

Perhaps the American Federation of Labor has a lesson to learn in the coming election. It has already received some instruction from the great mass of people in the United States, and it will probably do no harm to see that the lesson is well worked out in advance and demonstrated in such a way that its effect will be lasting and the education complete. In the meantime, however, it might be well for the employers of the nation to retire to their closet for silent consideration, for, instead of a unanimous agreement on the part of employers and business, there seems to be about as many suggested political and industrial theories in connection with wages, hours, production, open shop and democratic treatment of the industrial problems as there are groups of employers. When this disorganized situation is placed over and against the deadly parallel of one briefly stated fact, the UNWISDOM OF BUSINESS and the wisdom of Mr. Gompers and his non-partisan movement are apparent: Labor is a unit!

WHAT'S IN A NAME?

With no thought of minimizing the danger with which the radicals have threatened the nation, we should remember with reassurance one of our national characteristics. We have a madness for nomenclature. We like to give old things new names.

Remember the "muck-raker" and the companion word at the time—the "trusts." Then there was the time when every bewhiskered wanderer was a member of Cockey's Army. It is not so long since that about this time of the year the

newspapers of the country would begin to be full of accounts of violent assaults upon divers persons by kissing bugs.

Today we are somewhat too prone to call every successful business man a "profiteer," and every pseudo-reformer with radical tendencies a "Bolshevist." The "ins" and the "outs" we have always had with us, and of necessity always will. So let us not make too much of a bogie-man even of our problems of social unrest, and by giving foreign names to our domestic problems convince ourselves that we have something to deal with that we know not of. We are still fundamentally American both in our beliefs and our ideals.

TO INVESTIGATE BRITISH OIL SHALE

The Interior Department has estimated that the oil-shale deposits in the Western States carry several billion gallons of oil valuable for commercial uses. It has been said that the one great problem to be worked out is the possibility of production of oil from these shales at a cost allowing commercial profit.

At the twenty-second annual conference of the American Mining Congress in St. Louis last fall, a group of men interested in a study of the subject held a National Oil Shale Convention, discussing freely the phases of the oil-shale situation as developed thus far, both by the Government and various private investigators.

Dr. V. C. Alderson, president of the Colorado School of Mines, became chairman of the National Oil Shale Division of the American Mining Congress, and that division began at once the assembling of information looking to an early working out of the problems involved in the development of this new resource. Dr. Alderson sailed last week on the steamship Haverford for a 60-day sojourn in the shale fields of Great Britain and Europe for the purpose of making a thorough investigation of the oil-shale situa-

tion and the methods of producing, refining and marketing of the shales now under commercial development. Before sailing Dr. Alderson was granted an interview with Sir Auckland Geddes, British Ambassador, who at one time was in direct charge of the oil-shale development of Great Britain, and who is personally in contact with the present-day shale situation. Dr. Alderson carried with him letters of introduction to eminent British officials, scientists and petroleum experts, and will be able to make first-hand investigations and notes upon this important resource, which, unless all signs fail, will some day be one of the greatest wealth producers in the West.

Dr. Alderson has just completed a book on "American Oil Shales," which will shortly appear from a New York publishing house, and, having completed investigations of American shale, the further information to be developed by the European trip will equip him to submit a most complete and satisfactory statement of the world's situation as to this resource to the members of the American Mining Congress, who will thus profit immensely through the voluntary co-operation of Dr. Alderson at this time.

THE "KICK-BACK"

It is rarely that the common people—that indefinable group of the long-suffering public so often referred to in popular oratory—get an "inning." It is a "long lane that bath no turning," however, and the peculiar conditions now existing have made possible a long-hoped-for opportunity. The "worm has turned," and the public "is at the bat," so to speak.

The psychology of the "overall club" movement was not at first recognized. It was taken as a rather foolish and impotent demonstration of public protest. It was and it wasn't. The idea was there, and the idea has worked effectively for results.

The public simply refused to buy un-

necessary things. The individual felt a bit abashed when he vowed not to pay the price. He thought that his one shirt less and one pair of shoes less would never be felt, but it was, because the individual purchaser multiplied himself by thousands and hundreds of thousands, and thirty days of "dead business" brought the merchant to his knees. In turn, the manufacturer is feeling the "punch" through cancellations of orders, and news dispatches show that even the shoe factories—those overprosperous organizations which have been financed and refinanced since America launched itself into war—are being forced to shut down and reduce production or else reduce profits, and it isn't the present-day tendency to cut profits.

"Go slow" is the word among many factories; "speed up" is the cry of the nation. Thus we find that certain interests which have been crying "Wolf!" about a shortage of production and "inefficiency" on the part of labor are playing the game under the same rules long recognized as the "Labor Program." "Limit service to make the work go around" has been the union idea. "Maintain the price by preventing a glutted market" seems to be the present rule.

The public hasn't quit buying because it is oversupplied. Far from it. It isn't wearing patched shoes and old clothes because it likes the idea. It is merely trying to keep itself out of the poorhouse by refusing to be robbed of its last cent. There have been columns of public admonitions and speeches picturing the public as a spendthrift out on an orgy of money-spending. But the average daily expenditure for the bare necessities of life have become a wild orgy—looked at from the old-fashioned viewpoint—and the public is experiencing that "next morning" awakening with a strongly reminiscent taste in its mouth. It has taken a new oath, and it is keeping it. The 25-cent hose at \$1.25 per pair and the \$3.50 shirt at \$12 have palled on the public. The "better-buy-now,-as-the-next-lot-will-be-higher" propaganda has

worked itself into its grave, and the man who conceived the Piggly-Wiggly idea will drive the food profiteer into a sequestered corner. Even the \$1 theater seat at \$2.50 is not so well filled as of yore. Good work, do you say? THE MINING CONGRESS JOURNAL will say it is, but listen! Have you heard the loud voices of the "labor leaders" crying "Peace on Earth" and acclaiming labor as willing now to stand by the verdict of the jury? You have not. Instead you have heard and are still hearing the insistent demand for more money, greater control of industry and a very audible "The public be damned!" as usual.

What is the idea of this editorial? It's this: What goes up must, through the laws of nature, come down. When the gas runs out, the balloon must come down. When the fuel is exhausted, the plane must drop. When the profiteer puts too much weight on the "peak" of his price tower, it must topple. When the demands of Labor become too unreasonable for Industry to carry, Industry must stop.

Natural laws are at work, and lucky are we if by "sitting tight in the boat" we may avoid a catastrophe.

FINANCIAL REVIEW OF THE MONTH

The trend of things marketwise in its effect on the mining industry for the past month has been extremely interesting. Going into the month with a weighty burden of unfavorable conditions, we have emerged chastened, but with a much stronger optimistic undercurrent of sentiment. The first of May saw the country at the peak of its terminal congestion, due partially to shortage of equipment and partially to the outlaw switchmen's strike. Two hundred and forty thousand cars were congested at terminals loaded with merchandise on which the banks of the country were carrying heavy loans.

The financial stringency which had been dragging its way along through the beginnings of our period of deflation was rapidly accelerated by these frozen

credits. The rates for time and call money both advanced rapidly, time funds for a considerable period being out of the market entirely. The Interstate Commerce Commission was called upon to relieve the car congestion in the middle of the month, and by appointment of terminal committees began immediately to make progress in more rapid unloading, by which and by the rerouting of empties has now cut the congestion by at least 50 per cent.

To relieve the pressure at their banks, retail merchants inaugurated sales of both the merchandise on their shelves and that which was being released at the freight terminals, thus turning the tide of credit which had been largely tied up in commodities back into the more liquid money market. There was some curtailment of original production, due to shortage of raw materials, but this at no time reached an alarming point. The rapid decline in Liberty bonds to new lows, Second 4 $\frac{1}{4}$ s dropping as far as \$81.89, caused, first, an excess wave of selling because of the calling of huge loans secured by such bonds on the part of the banks, and an even more greatly increased wave of buying following the establishment of such low prices by the general investing public of the country. This again moves extensive holdings of the bonds from large holders of large blocks back into the hands of smaller holders of smaller units, and is an extremely favorable and healthy indication in the Liberty bond market. Liberty bonds are not back to prices of the first of the year, but they have recovered all of their losses during the month of stringency, ending May 20, when they made their record lows. The rapid absorption of these bonds by the people when huge blocks of them were thrown over by companies needing fresh money for the financing of their enterprises, which they could secure more readily and more cheaply by selling Liberties even at a loss than by going into the security market with issues of bonds and preferred stocks on their own account,

is a splendid commentary on the lack of any basic danger to our financial structure in our process of deflation. We have taken one long step in this deflation process, and have proved at least that a country can go through a trying period of deflation without the necessity of its being accompanied by a panic.

With deflation in commodity prices apparently well on its way, it would be idle to look for the prices of stocks to reach the average levels of 1919. If your dollar will buy more in the commodity market, it must of necessity buy more in the security market. While the merchants have been having from 20 to 40 per cent. discount sales, the stock brokers have been having the same bargains, and in neither case will there be a return to former high-price levels.

The railroad and equipment issues will probably be especially favored because of the rehabilitation of the railroads through prospective Government assistance in the form of allowance of increased revenues and granting of loans for immediate purchases. The demand for steel products continues strong, and ferro manganese is an especially noteworthy feature of the metal market, as it now brings \$250 spot and \$200 for futures. This has caused the reopening of a number of large substantial manganese properties, and ore producers are receiving around 80 cents per unit f. o. b. furnaces for their products. No long contracts can be secured at these figures, however.

There are conflicting reports with regard to the possibilities in the coppers, prices for the metal apparently ranging all the way from 18 to 22 cents for both spot and futures. The problems of financing European purchases of raw materials, particularly metals, are daily more encouraging with the rise in foreign exchange.

If we are to judge, therefore, by basic statistics, we may feel that in the month of May the country passed through the second step in the period of deflation which it has taken this year, the first be-

ing in February. The New York Reserve Bank statement for May 15 shows a ratio of total reserves to deposit and Federal Reserve note liabilities of 40.3 per cent., being within a fraction of a point of the record low for the year; the statements for each succeeding week have shown a slight improvement in the ratio. The record low on Liberty bonds May 20 has brought out strong rebuying. Time money is now being freely offered for 60 days at $8\frac{1}{2}$ per cent., and the call money rate for two weeks has fluctuated between 6 and 7 per cent., with 6 as the average rate. It is, therefore, quite apparent that if our deflation can be continued in this orderly manner, accompanied by only slight period of depression, we have nothing to fear from the dangers of a decisive panic, and that our whole problem will be met by increased production at normally diminishing prices.

THE SUPER-POWER PLAN

In these days of economizing in government appropriations, it is refreshing to note some of the remarks on the floor of the House by Representative Good of Iowa, chairman of the Sundry Civil Appropriations Committee, and Representative Byrns of Tennessee, ranking minority member of that committee, in which they urged additions to appropriations. Their arguments were in defense of an item of \$125,000, providing for an engineering investigation by the United States Geological Survey of the super-power project for the Eastern United States. Mr. Byrns stated, "This proposition is one that looks forward to the conservation of our resources, and, as has been stated, the time is at hand when something must be done looking to the conservation of our fuel supply, because those in authority state that at present the known supply of oil will be exhausted within a very few years at the present rate of consumption." He further characterized this Geological Survey investigation as one that should be made "by Government experts in order that if the

investigation discloses that such a plan is practicable, those who are asked to make these investments will have confidence in the accuracy and impartiality of the report." Chairman Good, in reporting the Sundry Civil Bill, had already made special reference to the super-power item in the bill as unique, but, as he believed, vitally important, and he stated that such a survey would represent "Government initiative and co-operation, which will result in the saving to the country of hundreds of millions of dollars annually. It will result in a great saving in the direct cost of fuel. It will furnish a reserve source of power for transportation and utility companies, which will be of large value in time of labor disputes and public emergencies. The principle can be applied broadly. Its benefits will accrue to towns and villages and to the farms of the country." Chairman Good also stated that this provision best illustrated the policy of including in the appropriation bill items providing for the future. He said "Government cannot stand still. It must advance. It must provide for healthy growth of every useful governmental activity." In concluding the debate on this item, which was followed by a favorable vote, Chairman Good remarked, "We may smile at this proposition. We may laugh it out of Congress, just as we did by ridicule the proposition of Mr. Langley in regard to the airplane."

To those who are interested in scientific and engineering investigations under Government auspices, such expressions by leaders in Congress are encouraging. It is also worthy of note that neither Mr. Good nor Mr. Byrns represent sections of the country that would primarily and immediately be affected by the proposed investigation; they seem to represent the country as a whole.

Must Be Added to Capital Account

All expenditures by a mining company for prospecting and development for the purpose of enlarging the business or continuing it beyond its present limits must be charged to capital account.

OIL SUPPLY FOR THE NAVY CAUSING GRAVE CONCERN

In a letter to Geo. Otis Smith, Director of the U. S. Geological Survey, Admiral Griffin says:

"We now have in commission seven (7) battleships of a combined horse-power of 204,000, which burn oil only. In addition to these, we have building twelve (12) other battleships of 533,000 horse-power; six (6) battle cruisers of 1,080,000 horse-power, and ten (10) scout cruisers of 600,000 horse-power, making a total under construction of these three classes of ships aggregating 2,513,000 horse-power.

"In oil-burning destroyers, we have actually completed two hundred and thirty-four (234), with an aggregate horse-power of 5,626,000, and under construction eighty-seven (87) others which will be completed during the next fiscal year, and will bring the total horse-power of destroyers up to 7,975,000.

"Our submarines already completed aggregate about 80,000 horse-power in Diesel engines, and those under construction will more than double this figure.

"Besides these vessels of a purely military character, we have others such as: mine sweepers, tugs, destroyers and submarine tenders and fuel ships, in which oil is used as fuel, whose horse-power aggregates 173,400.

"To sum up, we actually have completed and ready for service vessels aggregating more than 6,000,000 horsepower in which oil alone is used for fuel, and have under construction other vessels which will bring this total up to nearly 9,000,000 horse-power.

"Our requirements for the next fiscal year are estimated at 8,000,000 barrels of fuel oil, and 2,621,000 gallons of lubricating oil.

"The demand of the Navy alone for oil looks very formidable in comparison with the requirements of two or three years ago, and when it is considered that a large number of merchant ships completed during the last three years also burn oil, and that many industrial establishments have recently converted their power equipment to oil burning, the question of an adequate supply of fuel oil for the Navy becomes one of great concern.

"I share with you the views you have repeatedly expressed regarding the national importance of conserving our oil. Without an assured supply our Navy would be practically useless, and I shudder to think what the result would be if anything should occur that would even remotely threaten this supply."

Occurrence of Helium

Helium is found particularly in natural gases that do not burn readily—the so-called "wind gas"—because it is invariably accompanied by comparatively high percentages of nitrogen, a gas which is itself comparatively inert.—Bureau of Mines.

EVANS POINTS OUT NEVADA'S NEED FOR EXPERIMENT STATION

Representative Charles R. Evans of Nevada made the following statement concerning Nevada's need for a new mining experiment station:

"Nevada's position as compared to other States is unique—more than 100,000 square miles is still Government-owned. We respectfully urge for that reason Government appropriations, which comes from all States, that our vast area of public lands have due consideration for the great benefit derived from a mining experiment station. Nevada's earnestness and knowledge of such value is shown by our Legislature appropriating \$30,000 for housing this station.

"That sum is now available for the purpose of locating a mining experiment station contiguous to our State University and State School of Mines, where they will mutually aid each other.

"The steady, consistent and enormous production of scores of various valuable minerals justify our claims, but the potential production which will be aided is 100 times greater. Hundreds of mining districts with thousands of mines and prospects will repay the expenditure a thousand times over. Mining has become a science which all States sustain.

"The experiment station will inform with authority both the prospector and investor, stimulating legitimate activity and preventing misinterpretation if attempted, thus affording protection and encouragement to the residents of all States. We have great deposits upon the mountain-sides, running 64 per cent. in iron. Immense tonnage of copper in almost all the 17 counties, nearly all of which lie dormant. The Comstock produced \$600,000,000 in silver during the '60s and is still producing. Goldfield district, in Esmeralda county, produced more than \$100,000,000 in gold and is still producing. Tonopah district has produced several hundred millions in gold and silver, and her production today is greater than ever.

"Ely, in White Pine county, is treating at one plant alone 15,000 tons per day of copper ore.

"The State is corrugated with small mountain ranges, with minerals everywhere; gold, silver, copper, lead, quicksilver, manganese, coal, potash; in fact, all known minerals from antimony to zinc. My figures are approximate but conservative. Value of all minerals in 1916, \$53,500,000. For 56 years, since Nevada was admitted as a State, it has produced a billion in gold and silver alone or more than 15 per cent. of the entire output of the whole United States. Her mineral resources are probably not 1 per cent. developed. Every county is enormously mineralized. Our pro-

duction was growing more widely distributed and until 1917 steadily increasing, when the war claimed more than 8 per cent. of our population, and more than \$20,000,000 cash was advanced to the Government upon war subscriptions. Now, owing to higher costs of mining, depletion of our best labor and excess-profits tax, the mining industry is carrying too heavy load to continue its forward progress. This load can be lightened by recognition and advice obtained from a mine experiment station, which can and will solve the numerous mining problems.

"We are not complaining, but are proud to record the facts that minerals are there awaiting scientific methods for a greater extraction by the cyanide process for silver ores, economical treatment of low-grade oxidized lead and silver ores existing throughout the State; processes for extracting oil from oil shales; economy of treatment for low-grade oxidized copper and silver ores; low-grade lead; zinc ores containing gold, silver, copper, lead, zinc and iron. The slime settlement problem, conservation of lime and cyanide, used in treatment, of which we are perhaps the largest users, most of which is lost in tailings.

"Improved methods of precipitation, improved treatment of antimonial and arsenical ores carrying gold and silver, improved concentration and flotation process, improved processes for sulphide ores making their appearance as depth is attained.

"Leaching of oxidized copper ores, concentration of mercury ores; increased recovery for sulphur ores; advice upon rarer metals, platinum, etc.; concentration of tungsten ores; investigating waste in metallurgy, generally aiding the small mine to develop into a big producer, thus mines are more made than found. Locating an experiment station near will bring great benefit by aiding development of the public domain. The State has appropriated \$30,000 for housing the station if it is granted to us. There is no provision in the law requiring the State to appropriate a part of the expense. I believe our State, according to a conservative estimate, is not more than 1 per cent. developed because it is public domain to such an extent. It would cost the Government \$25,000 to establish this station. The annual maintenance of this station would depend to a great extent on the number of men employed and some other conditions, but I imagine they are all living within the appropriation. The \$30,000 appropriated by the State is for housing, so that the Government would be at no expense in this way, and they plan to put it in close proximity to our State University and State School of Mines. The station is to be established in Washoe county on the Southern Pacific Railroad at Reno, that county having about 25 per cent. of the population of the State. We have not an experiment station in Nevada, the closest one being at Salt Lake.

COMMISSION NAMED BY PRESIDENT TO FIX NEW ANTHRACITE WAGE SCALE

President Wilson on June 4 appointed a commission of three men to settle the wage controversy between the anthracite coal miners and operators.

The members of the commission are Wm. O. Thompson of Columbus, Ohio; Neal J. Terry of McAdoo, Pa., and William L. Connell of Scranton, Pa.

The commission's award is to be made within sixty days if possible, and its award as to wages will be retroactive to April 1, the date when the contracts between the miners and operators expired.

Mr. Thompson, who will represent the public on the commission, is president of the University of Ohio. Mr. Ferry, who will represent the miners, is a member of the executive committee of the United Mine Workers of America, and Mr. Connell, the operators' representative, is an independent operator.

The President on May 21 wrote the following letter to the operators and miners of the Anthracite Wage Scale Committee:

"I have watched with more than passing interest your efforts to negotiate a new wage scale for the anthracite coal fields. The arrangement to continue work at the mines after April 1 pending the adoption of a new agreement, which you entered into when the previous wage scale was about to expire, was highly commendable and filled us all with hope that a new contract would be mutually worked out and the supply of anthracite coal continued without interruption. I sincerely trust that the hope will be fully realized.

"I have, however, been advised that there is a possibility you may not come to an agreement. I am sure I need not remind you that we have not yet recovered from the economic losses incident to the war. We need the fullest productivity of our people to restore and maintain their own economic standards and to assist in the rehabilitation of Europe. A strike at any time in a great basic industry like anthracite coal mining would be a very disturbing factor in our lives and industries. To have one take place now while we are actively engaged in the problems of reconstruction would be a serious disaster. Anthracite coal is used principally in domestic consumption. Any shortage in the supply would affect a multitude of homes that have been specially equipped for the use of this kind of fuel. It would have to be supplemented by the use of substitutes such as bituminous coal or oil, diverting these commodities from transportation and manufacturing industries which they now supply, using more cars because of the longer hauls and thereby reducing the efficiency of our transportation system that are already burdened beyond their capacity. Such a condition must not occur if there is any way of avoiding it.

"I am not familiar with the technical problems affecting the making of your wage scale. You are. You should, therefore, be able to effect an agreement. If for any reason you are unable to do so, I shall insist that the matters in dispute be submitted to the determination of a commission to be appointed by me, the award of the commission to be retroactive to the first of April in accordance with the arrangement you have already entered into, and that work be continued at the mines pending the decision of the commission. I shall hold myself in readiness to appoint a commission similarly constituted to the one which I recently appointed in connection with the bituminous coal mining industry as soon as I learn that both sides have signified their willingness to continue at work and abide by its decisions."

WENTZ ELECTED PRESIDENT NATIONAL COAL ASSOCIATION

Colonel Daniel B. Wentz, president of the Stonega Coke & Coal Co., Land Title Building, Philadelphia, and a director of the American Mining Congress, has been elected president of the National Coal Association for the coming year. Other officials elected were:

Vice-presidents: Alfred M. Ogle, president Vandalia Coal Co., Terre Haute, Ind.; J. G. Bradley, president Elk River Coal & Lumber Co., Dundon, W. Va.; Erskine Ramsay, first vice-president Pratt Consolidated Coal Co., Birmingham, Ala., and J. D. A. Morrow, Washington, D. C.

Secretary, W. B. Reed, Washington, D. C.

Treasurer, J. J. Tierney, vice-president and general sales manager Crozer-Pocahontas Company, Philadelphia, Pa.

Basis of Inventory

The rule applicable to all industries is that inventories should be taken on the basis "a, cost, or b, cost or market, whichever is lower." It is recognized that in some industries the actual cost of production cannot be ascertained accurately, and it is necessary to approximate a cost value by using selling market prices as a starting point and reducing such selling market prices in each case by an amount sufficient to eliminate the element of profit. This rule is widely used in many lines of industry, notably in those types of mining and manufacturing in which a product of more than one grade or more than one kind is obtained by a common operation. Under its application a result can be reached that fairly approximates the inventory basis laid down in the Regulations.—*Internal Revenue Ruling.*

MINING CONGRESS DRAFTS COAL EXPORT QUESTIONNAIRE

At the request of the Bureau of Foreign and Domestic Commerce, the Coal Export Committee of the American Mining Congress prepared and submitted to a large number of exporters of coal a questionnaire, asking for suggestions and additions in order that a complete questionnaire might be prepared and submitted to the commercial attaches in the various coal-purchasing countries abroad.

The responses were numerous, and as the result of the suggestions so covered the Export Committee of the Congress has submitted to Hugh D. Butler of the Bureau the following questionnaire:

1. What are the relative proportions of steam and gas coal used?
2. Is mine-run or screened lump preferred for steam purposes?
3. What proportion of plants using steam coal have stoker grates?
4. Are these parties buying coarser coal and crushing it, or using slack coal?
5. How many of the plants visited have or have not a smoke ordinance?
6. Do the railroads use a high or a low volatile coal?
7. Are storage facilities such, in general, that a sufficient quantity can be received during the summer months and safely stored without danger of fire for the balance of the year?
8. Is the United States a normal source of supply, or will the demand for American coal become less and less? If the latter, how long will the present demand continue?
9. In the municipal and similar gas plants, is there any legal restriction on the amount of H_2S in the gas per 1000 cubic feet?
10. Are the purifying boxes ample or restricted?
11. What is the maximum percentage of sulphur in coal these plants can use in emergency?
12. What type retorts are used: horizontal, vertical, inclined?
13. Are they hand-charged or mechanical?
14. What is the average yield of gas per lb. of coal?
15. Is the manufacture and sale of by-products, coke, etc., an essential item?
16. Is the fusing point of ash considered in selection of coal?
17. Does the consumer usually purchase coal direct or through importing firms or agencies?
18. Under the present existing rates of exchange, does the consumer usually have to finance his coal supply individually, or is coal purchased collectively upon an established collective credit?
19. What are terminal conditions, and are ships unloaded for a year with low average demurrage at the port?

20. What are the prospects for handling return cargo at your port or nearby ports, and if there is cargo available, of what nature?

21. Has British coal ever controlled your fuel market, and if so, what percentage of British coal is being used now; also, what percentage of American coal was used when Britain had available supply?

22. What are the discharging facilities at unloading ports?

23. Can steam consumers other than railroads use high volatile coal as well as low volatile?

It is understood that this questionnaire will now be forwarded by Mr. Butler to the commercial attaches indicated, and that when the data so collected has been returned to Washington, the same will be available to American coal exporters.

The Coal Export Committee, whose chairman is Dr. Henry M. Payne of New York, is actively engaged in collating coal export data, with the purpose of creating an export organization under the terms of the Webb-Pomerene Bill, which shall broadly include all coal exporters of the United States from all ports.

The work of the committee has been very thorough and conservative, and no hasty action was taken, as the majority of trans-shippers and exporters felt that in view of the shortage of coal and general transportation conditions during the past three months, it would be more advisable for the committee to compile all possible information for its further guidance and create the export organization when conditions became most favorable and the demand greatest.

LATEST BUREAU OF MINES REPORTS COVER WIDE FIELD

The latest monthly reports of investigations of the Bureau of Mines cover the following subjects:

The Engineering Aspects of the Petroleum Industry by Earl W. Waggy; Co-operative Petroleum Work in the Rocky Mountain Fields by F. B. Tough; Oil Thieves by A. R. Elliott; Features of the Colombian Petroleum Law by J. W. Thompson; Recent Articles on Petroleum and Allied Substances by E. H. Burroughs; Safe Storage of Coal by H. H. Stock; Tale and Soapstone by R. B. Ladoo; Casting Losses in Aluminum-Foundry Practice in the U. S. by R. J. Anderson; Milling and Flotation by Thomas Varley; The Field of Work of the U. S. Bureau of Mines by Van H. Manning; Use of Airplanes in Mine Rescue Work by F. J. Bailey; Educational Agencies in Mining Communities by T. T. Read; Influence of Age and Occupation on Frequency and Severity of Disability by W. W. Adams; The Efficiency of Mine Labor with Special Consideration of Industrial Medicine and Health Conservation by A. L. Murray.

SENATOR'S CHARGES OF PROFITEERING IN COAL ARE CHALLENGED

Replying to charges made on the floor of the Senate by Senator Walsh of Massachusetts, J. D. A. Morrow, the vice-president of the National Coal Association, said:

"I have read your speech on profiteering with much interest, but I am constrained to deny your statements concerning the profits of the bituminous coal industry. To my mind it is necessary to refute the indiscriminate charge that the bituminous coal industry made preposterous profits during the war. Let me, therefore, direct your attention to official figures on this subject which you have either overlooked or disregarded.

"You cite Mr. McAdoo's report on corporate earnings printed as Senate Document No. 250 as your chief authority. The unfairness of that report is notorious. Mr. McAdoo's letter of transmittal itself states that he selected only companies 'which in 1917 earned 15 per cent. or more on their capital stock.' In 1917 there were about 7000 separate coal producers. His report, therefore, covers only about 6 per cent of the total number. It only includes the fortunate 392 who, because of specially favorable mining conditions with low production costs compared with selling prices, or on account of merely nominal capitalization, made 15 per cent. or more on their capital stock. It says nothing of the other 94 per cent., some 6600 operators, who admittedly made less than 15 per cent. Even the percentages quoted for the 392 concerns are no true measure of profits, because they are based on capital stock, when the report itself shows that many of these companies had invested far more than their capitalization. Consequently, any such conclusions as yours, based on that report, are manifestly unfair and misleading.

"Further, with regard to alleged huge profits in 1917, the United States Geological Survey Report on Coal Production for 1917, page 958, shows that the total output of bituminous coal in 1917 was sold by the operators at an average price of only \$2.26 per ton at the mines, out of which all operating expenses, fixed charges and taxes had to be paid before any profit remained.

"Throughout 1918 prices were under control of the Government. On November 10, 1919, Dr. Garfield, United States Fuel Administrator, stated publicly that the average price allowed the bituminous operators for 1918 was only \$2.61 per ton. He stated further that this permitted them an average 'margin' of 46 cents per ton. Dr. Garfield was careful to explain that out of this 'margin' Federal taxes of 30 cents per ton and some other deductions had to be made before the operators had any profits. Let me refer you also to the report of the United States Bituminous Coal Commission, page 41, where the tax returns to the Treasury of some 1551 bitu-

minous coal mining concerns are tabulated for 1918. These companies produce about one-third of the total output of bituminous coal, and after examination of the companies included, the United States Geological Survey advised the Commission that these companies represented fairly the conditions throughout the industry. Please observe that 337 of the 1551 operators reported losses, and that after deducting taxes, the average per cent. of net income to invested capital for the 1214 companies reporting profits was less than 11 per cent., and for the entire number of 1551 companies, was only 0.72 per cent.

"In this connection, I trust you will remember that coal mining is a hazardous business and cannot be judged by the standards of return which are properly applicable to safer enterprises. At the outset the operator must invest in hundreds of acres of coal land, parts of which may afterward turn out to be unworkable. He must sink his money in miles of underground tunnels and install expensive machinery far below the surface, all of which investment is subject to rapid destruction or total loss by explosions, fires, falls of slate, sulphurous mine water and other physical conditions. At any time he may encounter irregularities in the coal deposits which will run his mining costs up to prohibitive figures. No 6 per cent. or 8 per cent return is adequate for capital which must encounter such risks.

"As for 1919, the evidence obtained by Senator Frelinghuysen's Sub-Committee of the Senate which has been inquiring into coal conditions since last August, shows that, following the lifting of Fuel Administration control, prices under competition in the open market sank to less than the Fuel Administration maximum limits. The only exceptions to this general downward price movement were certain high grade coals of special value which have always commanded a premium in the open market. At the same time, on account of the additional increase in the cost of material and on account of greater lost time, mining costs advanced. It is common knowledge that in 1919 profits were less than in 1918.

"The Federal Trade Commission has recently issued two reports on costs and selling prices of bituminous coal, showing that the operators' 'margins' in January and February, 1920, were only about half the 'margins' of 1918. The reports state that the 'margins' shown are not profit because selling expenses, interest on investment and Federal taxes are still to be deducted.

"The sale of a few cars of coal at high prices may be heralded broadcast as evidencing the general level of bituminous coal prices. Nothing is ever said of the millions of tons moving currently at low prices. Some bituminous coal is doubtless being sold today at relatively high prices, but under present operating conditions high prices are inevitable.

"An acute transportation shortage, rendering mine operation very irregular and costly, has been accentuated by unfair discrimination in the distribution of empty coal cars to the mines. Under special authorization from the Interstate Commerce Commission and in the face of the most vigorous protests from the bituminous coal operators, the railroads are giving a full supply of cars to those mines supplying their locomotives with coal and are running these mines six days per week. They are scattering the remaining handful of cars among the other mines which supply the public utilities, the industrial plants and the domestic consumers of the country. Hundreds of mines thus discriminated against are prevented from shipping coal on more than four or five days per month, but all the expense of maintaining these mines goes on just the same. Some of them normally hoist 10, 15 and 20 tons of water daily for every ton of coal produced. This water must be pumped regardless of whether coal is being shipped or not. The workings must be kept ventilated, tracks cleaned of falls of slate and rock and the property maintained. Such irregular operating conditions in the last few weeks have increased production costs at hundreds of mines from \$1 to \$3 per ton. Thus, at the same time that this system of discriminatory car distribution is depriving the industrial consumer and ordinary householder of his coal, it is doubling the cost of producing the little tonnage which is available for him.

"There can be no permanent improvement of social conditions in America proceeding from misinformation and misunderstanding of the elemental facts. I am satisfied that you are sincere in your desire for constructive betterment, and, therefore, I am taking the time to bring this information to your attention. We shall be glad at any time to give you or any other public official the facts on conditions in this industry.

"Since your speech has been widely quoted, I deem it only fair to make this letter public."

As to Surtax

Where individuals transfer property to a corporation which later demonstrates the principal value of such property as oil-producing property "by prospecting or exploration and discovery work" and then dissolves, transferring the property to the individuals, who remain stockholders without change in interests, and such stockholders sell the property, the portion of the surtax attributable to such sale is not limited to 20 per cent. of the selling price of such property or interests under Section 211, subdivision (b) of the 1918 Revenue Act.

RESTRICTION ON USE OF GASOLINE FORESEEN BY DR. GEO. OTIS SMITH

George Otis Smith, Director, United States Geological Survey, in his speech before the American Iron and Steel Institute in New York on May 28 said, among other things:

"The last ten years might be called the petroleum decade. The World War depended upon American oil wells for motive power. Gushers and oil booms increased popular faith in an inexhaustible supply of petroleum. Domestic production doubled and consumption more than doubled, so that Mexican oil has become an absolute necessary part of our supply. These ten years mark a transition from oversupply to overdemand.

"The ever-increasing demand for gasoline and fuel oil are the outstanding oil needs, so that the question of priority must soon arise. With an estimate of 7,000,000,000 barrels in the ground, and the 1920 consumption closely approaching a half billion barrels, this rapid pace cannot long be maintained. Benzol and alcohol from the coke ovens promise only enough motor fuel to meet part of the present increase in demand; oil from oil shales will not be labor-cheap like the petroleum now flowing from the wells. Regard for the future forces us both to plan to use less oil and to import more.

"Some restriction in gasoline consumption must soon come; fuel oil in locomotives and stationary steam plants must give way to the demand for this fuel by the Navy and United States merchant marine, which alone this year require one-third of the output of fuel oil. Oil as a power-saver has a unique function, and the demand for lubricating oil must continue to increase as the use of machinery increases.

"Pioneering for oil in foreign countries by American capital will not only help secure the needed oil, but will also furnish markets for American manufacturers, especially of steel products. Planning for the future needs to include more attention to supplies of raw materials to insure the country's industrial life."

Cheerful Charlie

Charles M. Schwab tells us to laugh at present-day troubles, so—

Let's take our cue from Charlie Schwab,
And join the chuckling, laughing mob—
Ha! Ha! Bread's up another cent;
Ho! Ho! The landlord's raised the rent;
Hee! Hee! We'll soon be in a tent.
Ha! Ha! Haw! Haw! Hee! Hee!
Our coal's to cost a fearful price. Ha! Ha!
We'll pay a whole lot more for ice. Haw! Haw!
And higher taxes—ain't that nice? Hee! Hee!
Now don't say things will cost still more,
(We got the giggles once before)
We'd have hysterics—kick the floor—
Tee hee! Har har! WOW! WOW!

DIRECTOR MANNING ANALYZES WORK BEING DONE BY BUREAU OF MINES

Before the House Committee on Appropriations recently, Dr. Van H. Manning, retiring Director of the Bureau of Mines, gave an interesting and concise summary of some of the noteworthy results of the past year's work of the Bureau. Dr. Manning said:

"In co-operation with the War and the Navy Departments, the Bureau of Mines continued work on plants for recovering helium, a rare gas needed for balloons and airships, from natural gas, and demonstrated the merits of the processes used.

"Completed the construction, in co-operation with the War Department, of a plant for manufacturing sodium cyanide by the Bucher process.

"In co-operation with the War Department developed a plant for the manufacture of nitric acid by the oxidation of ammonia.

"Investigated mining and milling problems at mineral deposits throughout the country in order to ascertain the available supply of war minerals, and how these minerals could be produced more efficiently.

"Issued reports showing the markets for various ores, minerals, and metals, and giving data on the status of various mineral industries.

"Made a thorough study of the manufacture of sulphuric acid in the United States.

"Completed a comprehensive review of the explosion tests of coal dust at the experimental mine near Bruceton, Pa.

"Determined the value of the geophone, a device for detecting sounds transmitted through coal and rock, in recovery work, with especial reference to its use in locating mine fires and in communicating with miners entombed by a disaster.

"Continued the study of the subsidence of the surface over coal mines in Illinois in order to ascertain what system of mining will do the least damage at the surface while permitting the largest recovery of coal.

"Completed, in co-operation with the Bureau of Indian Affairs, the appraisal of the segregated coal and asphalt lands in eastern Oklahoma which belong to the Choctaw and Chickasaw Nations.

"Investigated, in co-operation with the Public Health Service, dust and ventilation conditions in mines in Arizona.

"Through field demonstrations showed operators and well drillers how large wastes of oil underground may be prevented by cementing oil wells so as to prevent water from entering the oil sands.

"Gave the Bureau of Internal Revenue a method for estimating the future and ultimate

production of oil fields, and thus determining depletion allowances in taxation.

"Issued monthly reports on the operations of petroleum refineries throughout the United States, showing the output of the refineries and the amount of crude oil they used.

"Studied methods of preventing losses of oil underground through the infiltration of waters into oil sands.

"Determined the advantages of the circulator method of drilling oil wells.

"Co-operated with State officials of Wyoming in formulating a proposed law governing the drilling of wells in the State.

"Investigated casing troubles and fishing methods in drilling oil and gas wells.

"Co-operated with State officials of Illinois in remedying troubles from underground water in oil fields.

"Determined the effects of various factors on the production of gasoline from heavy oils by the vapor-phase cracking process.

"Made a nation-wide investigation of the grades of motor gasoline being marketed.

"Demonstrated the value of absorption for recovering gasoline vapors in the residual gas from compression plants for obtaining gasoline from natural gas.

"Gave further attention to the recovery of oil from the oil shales of Colorado and Utah.

"Continued investigations of the fusing temperature of the ash of different coals in order to show the liability of the coals to clinker.

"Ascertained the suitability of American graphites for various purposes.

"Began a comprehensive investigation of the white clays of the United States and the value of these clays in the ceramic industry.

"Began an investigation of the dolomite deposits of the Eastern States and the possibility of using calcined dolomite as a refractory material for lining furnaces.

"Co-operated with the Geological Survey of Ohio in making a survey of the fire clays of that State.

"In co-operation with the State of Idaho investigated the treatment of complex lead-zinc and copper-iron sulphide ores by flotation.

"Investigated the fuel value of the lignite of the Nenana field, Alaska.

"Continued investigations of the treatment of molybdenum ores.

"As a result of the examination of methods of purifying crude graphite developed improvements in milling practice.

"Studied the possibility of substituting do-

mestic for imported graphite in the manufacture of crucibles.

"Co-operated with the War Industries Board in measures to reserve an adequate supply of platinum for war requirements.

"In administering the act regulating the manufacture, sale, possession and use of explosives during the war; supervised the work of about 14,000 licensing agents throughout the United States and its insular possessions; investigated accidents at explosive plants; examined magazines for storing explosives; and began prosecutions against violators of the provision of the act.

"During the year trained 9781 miners in first-aid and rescue methods at the mine safety cars and stations, as compared with 8851 in the fiscal year 1918.

"Investigated causes of 29 mine accidents, 19 in coal mines and 10 in metal mines.

"Determined the limitations of Army gas masks for use at fires and in industrial plants.

"Sampled coal mines for the Navy Department and prepared reports on the quality of coal and the methods of mining and preparing it for market.

"Continued work on the explosibility of coal dust from different mines, thereby gaining additional information on how coal-mine explosions can be prevented or limited.

"Developed a new method of signaling danger to miners underground by the injection of an ill-smelling substance into the compressed-air lines supplying mining machines and pumps.

"Continued tests of explosives to determine their suitability for use in mines and quarries. Two new explosives were approved as permissible for use in dusty or gaseous coal mines. At the end of the year there were 162 explosives on the permissible list.

"Made further tests of an explosive made of liquid oxygen mixed with carbonaceous material and investigated its suitability for mining work.

"In co-operation with State mine inspectors, collected and published monthly reports on fatalities at coal mines throughout the country.

"Improved furnaces in boilers of the Emergency Fleet, increasing the economy 16 per cent.

"Acted in an advisory capacity for the United States Fuel Administration in matters of conservation.

"Aided in extending the use of bituminous coal in water-gas manufacture.

"Planned and had charge of the construction and operation of the Government fuel yards in the District of Columbia, from which all Federal and District Government institutions in or adjacent to the District are supplied.

"Prepared for the War Department and

Navy Department special steels containing uranium, tungsten, molybdenum and zirconium."

During the year the Bureau received 97,000 letters requesting information or publications regarding its work, which was an increase of 20,000 over the previous year. On January 1, 1920, there were 625 employees of the Bureau, of which 250 were on duty in Washington. During the war the Bureau had between 3000 and 3500 employees; 2000 of which were at the American University in Washington, on toxic gas and explosives investigation. He favored the transfer to the Bureau of Mines in July of their work heretofore conducted at the university. The Washington laboratory of the Bureau is devoted almost wholly to coal analysis. Dr. Manning called the attention of Congress and the public to the necessity of inspecting coal, the same as meat and other products. The coal inspection work of the Bureau is done at the point of delivery and not at the mouth of the mine. The Bureau is analyzing and testing coal for foreign Governments who pay for the work, the Bureau supervising, sampling and inspecting. Inspection is had in yards at shipping points like Baltimore and Philadelphia, from which there are large exports of coal, but not sufficient to meet the European demand for 100,000,000 tons.

Dr. Manning said the Fuel Administration during the war had a fairly effective inspection system. It was, however, a visual inspection, which he did not consider the best method. Under proposed appropriations the Bureau contemplated the establishment at various points of sampling stations and through its laboratories analyze and test coal to insure the public that it is getting what it is paying for. Referring to the statement that during the war shipments of coal from the mines were 35,000,000 tons larger in one year than in a previous year, Dr. Manning said: "I had information that in that year 35 million tons of slate and dirt were shipped as coal." The Swiss Government had complained that coal it was receiving from America contained 33 per cent. ash. The Swiss Minister had conferred with him on the subject and Dr. Manning had assured him that there must be a mistake, as the Bureau had sampled and analyzed the coal. Dr. Manning advised sending an agent to Europe to follow the coal from the shipping point because he did not want the American operators to get a "black eye." The Swiss Government paid the expenses of a chemist who took samples of coal shipped from Baltimore and Rotterdam and samples of coal received at Switzerland. The Swiss laboratory showed the analytical methods were the same as the American. The trouble was the method of sampling at Rotterdam. The Bureau of Mines samples by taking 2000 pounds out of a 50-ton coal car and a shovel or bucket is put underneath the

hopper and a sample taken as the coal comes out. In this way a large sample is accumulated which is worked down to laboratory size.

Dr. Manning said some of the States are requiring the Bureau to analyze coal which they are buying for their State institutions on a specification basis, and an increased appropriation was necessary to extend this work. A representative of the Fuel Administration had estimated \$6,000,000 for coal inspection, and asked Dr. Manning to request such an appropriation from Congress. However, he did not feel like asking for so large an amount and, therefore, reduced it one-tenth. Under this appropriation the Bureau would provide coal inspectors all over the country, and sampling stations geographically located to handle the situation. For the work 223 employes would be required, at annual salaries amounting to \$427,640, traveling expenses \$150,760, coal-sampling stations \$111,500. Four coal-sampling stations were proposed. The stations would be more for bituminous than for anthracite, but he favored sampling anthracite as well. Asked what would be the result of Government testing of coal, Dr. Manning said the consumers would insist on buying their coal from mines maintaining a standard certified to by the Government, and it would have a moral effect on operators and miners in cleaning their coal. Chairman Good said that anthracite coal at present is not up to the standard of the coal that was shipped four, five or six years ago. He wondered what the loss was in freight paid in sending shale and rock and the saving to the public if such substance were eliminated from coal. Dr. Manning said that since anthracite was a smaller industry he thought it exercised more caution in preparing its coal for shipment, but it was a fact that during the war and at the present time the public is not getting the quality of coal that it should receive.

Dr. Manning recommended an increase of \$15,000 for the purchase of two rescue auto trucks for duty at Norton (Va.) and McAlester (Okla.) mine rescue stations, where men are trained in mine rescue work and subject to call for any disaster that may occur in that vicinity. A truck costs \$4250 and equipment \$2000. Similar trucks are operated at other stations. Virginia produces 9,000,000 tons of coal a year and employes between 15,000 and 20,000 miners. Norton is in the center of the largest coal-producing section of the State, which has a maximum radius of 120 miles. The locality has very limited train service, and in the event of mine disasters it was difficult and sometimes impossible for rescuers to reach the scene in time to aid. Roads were reasonably good for auto transportation and extend over to eastern Kentucky. The installation of a rescue truck at Norton would make the Bureau's work in Virginia and Kentucky more efficient.

McAlester is centrally located in eight pro-

ducing Oklahoma coal fields, with an annual production of about 4,000,000 tons and employing about 8000 miners. Oklahoma mines are gaseous and dusty and subject to explosions. The mining station at McAlester was presented to the Government by miners and operators through popular subscription.

Dr. Manning favored an appropriation for trophies for mine rescue work which were now provided locally. Keen interest was taken in this activity, which he described as of great educational value and of mine-safety importance. Industrial concerns had contributed prizes of safety lamps, but he thought contestants would appreciate a trophy from the Government more than from any other source.

Proposal to appoint State explosive inspectors had been dropped, and the Bureau was clearing up its work under the Explosives Act. Effective work had been accomplished in educating States as to the dangers of storage magazines near business and residential sections.

Recommending increases of salaries for employes Dr. Manning said last year 34 per cent. of the technical men went into industries for higher pay. The Bureau also lost 44 per cent. of its clerks, and there was a turnover of 180 per cent. among its laborers.

He favored continuation of distribution of literature dealing with saving of life, referring particularly to miners' circulars which go to every mining community. He estimated there were from 25 to 30 different nationalities among miners, and it was important to educate them in safety measures for their benefit.

As to investigations of mineral fuels last year the Bureau worked on smoke nuisance at Salt Lake. He referred to co-operation of the State institutions and associations in work of this character.

The Emergency Fleet Corporation had credited the Bureau with saving one-sixth of fuel used on merchant vessels. He recommended an expansion of the work, as there were a great many scientific and technical problems calling for solution. The work of analyzing and testing coal for the States and foreign countries should be further extended. Fees for tests analysis received by the Bureau for the eight years ending June 30, 1910, amounted to \$24,558. Practically all of the tests are confined to coal and oil. Coal investigations cover analysis and test of coal for the Federal Government, the States and foreign governments; fusibility of ash and efficiency of boiler equipment. As regards the latter the Bureau determines the most efficient coal for use in boilers, advising the Government departments whether they ought to use bituminous or anthracite coal, thereby cutting down the cost, as in the case of the Government Printing Office.

NAVY AWARDS OIL CONTRACTS— TO RECOVER OWN GASOLINE

Awards for 5,000,000 barrels of fuel oil has been made by the Navy Department.

In order to avoid further increasing the price of oil and gasoline by decreasing the amount of American oil available for commercial purposes, the Navy Department, in awarding its contract for the coming year's supply, by a slight modification of its standard specifications, has been able to utilize a large amount of crude Mexican oil hitherto unavailable for naval purposes.

In addition, the Navy will receive as a by-product, in refining this oil for fuel use during the coming year, 15,702,000 gallons of gasoline, which will not only meet the Navy's full demand, but leave sufficient to relieve the needs of other Government departments to a considerable extent at a price of approximately the actual cost of manufacturing and transportation.

The department has also inserted a clause in the contract by which the company refining this oil for the Navy agrees to instruct specially detailed naval officers in every detail of manufacture, and to give the Navy the use of any patented or secret processes should it later seem advisable to go in the refining business on its own account. In this way for the first time exact and accurate knowledge of the cost of fuel oil and gasoline will be ascertained, and in future years the Navy will be in possession of indisputable data as to what should be a proper cost for both oil and gasoline.

The limit of the facilities which could be completed for delivery of fuel oil under the contract which contemplates the refining of the heavy Mexican grade of oil without mixture with American gas oil was found to be approximately 10,000,000 barrels of crude oil, but the department has also secured from the company refining this oil an option of 10,000,000 additional barrels should it be decided to arrange for additional refining facilities.

The present awards are based on the tenders received after a second opening had been held by the Department with a change of specifications so as to use in place of what has been known as Navy standard the grade known as Bunker "A," which is the same as the Navy standard with the exception that the limitation as to sulphur content is eliminated.

On the first opening of bids for fuel, on the 16th of March, of a total of 5,000,000 barrels requested, bids for only 718,000 barrels Navy specifications oil were received, with prices ranging from \$3.65 to \$4.20, contingent on points of delivery. This was both as to price and quantity so unsatisfactory as to cause the Navy to hold a second opening on the 26th of April, when the suppliers were given an opportunity to quote on Navy standard, Bunker "A" and also a special specification which approximated Bunker "B" grade.

As a result of this opening there were received an offer from the Cochrane-Harper Company of Boston for the manufacture of 3,000,000 barrels of Bunker "A" oil; all other bidders quoting on oil which could not be satisfactorily used. While the Cochrane-Harper bid was satisfactory as to quality, the total amount did not fully meet the Navy requirement; therefore, the matter was taken up with the various bidders and modifications of their tenders were secured on which the following awards have been approved by the Department:

Standard Oil of New Jersey, 800,000 barrels at \$3.258 per barrel at New York.

Standard Oil Co. of Louisiana, Baton Rouge, 500,000 barrels at \$2.85 per barrel, delivered Baton Rouge.

Texas Company, 900,000 barrels, \$3.40 per barrel at New England points, \$3.258 New York, \$3.40 Norfolk, \$2.85 Port Arthur, Tex.

Cochrane-Harper Company, Boston, 3,000,000 barrels at \$3.246 at New England points.

The oil supplied by the Standard Oil companies to the Department will be a mixture of Mexican oil and light American oil distillate. The oil furnished by Cochrane-Harper will be a specially refined Mexican crude.

In connection with the refining of this oil under the Cochrane-Harper Company tender arrangements were made for instruction to naval officers in the detail of manufacture. The contract with this company also gives the Navy as a by-product 8,400,000 gallons of motor gasoline at 20 cents, and 7,302,000 gallons at 22 cents a gallon, the Navy Department having the right to renew the contract for the year succeeding at the same rate and quantity for gasoline and a reduced rate of approximately 25 cents a barrel on the fuel oil. Compared with the low bids on gasoline for the same points received by the Navy under a special opening under which no awards have yet been made, the Navy will save \$1,580,000 on gasoline, thus making the actual cost under this bid of the fuel oil if the gasoline saving is deducted, to the Navy during the first year approximately \$2.72, and for the second year, should it renew the contract under its option, \$2.47. The refining of this oil will be done at a greatly enlarged plant now in process of completion at Fall River, Mass. The Navy also will be provided with storage at that point without expense for 400,000 barrels of fuel oil as well as for storage of drums and gasoline in bulk. Cochrane-Harper have also agreed in their contract to provide storage at cost at other points where the Navy may expect large demands from the service.

The awards made provide the Navy with approximately 5,200,000 barrels of fuel oil and 15,000,000 gallons of gasoline during the first year, with the option of renewing the Cochrane-Harper contracts so as to insure at least 3,000,000 barrels of oil and 15,702,000 gallons of gasoline next year, with a further option of 10,000,000 barrels of crude oil for next year should the present scarcity continue.

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OFFICERS:

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Paul Wooton, News Editor.

New York Office: 507 Fifth Ave. Tel., Murray Hill 3830.

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INDUSTRIAL USES OF TNT ARE LIMITED, EXPERTS DECLARE

TNT, the explosive developed during the war, is not likely to be generally used because of its cost is the conclusion reached by the Bureau of Mines after an investigation to discover the safest and best ways of utilizing surplus quantities of the material left over from the war for industrial blasting purposes. The investigation was undertaken solely to aid in the salvage of the material accumulated for war uses and released by the armistice, it being unsafe for storage against possible future emergency. "It is not intended to promote the use of TNT as an industrial explosive," says the report, by Charles E. Munroe, chief explosive chemist, and Spencer P. Howell, explosive engineer. "The clouds of smoke given off by TNT on explosion shows that the highest efficiency is not obtained. It can be im-

proved by mixing the TNT in proper proportions with sodium nitrate or ammonium nitrate or some other cheap oxidizing agent which will consume the combustible matter. By such admixture not only will the energy resident in TNT be utilized to a greater extent, but the cost of the resulting explosive should be much less than that of TNT. It may be desirable to add other material with which to waterproof this product."

The report says TNT can be successfully used for dolo shots of boulders, for removing stumps and for splitting logs; it will give results the equal of 40 per cent. straight nitroglycerin dynamite; it detonates completely with a No. 8 electric detonator; it detonates completely under water and detonates completely after moderate immersion in wet holes; appearance of black smoke is not to be taken as an evidence of incomplete detonation.

The report states that the following conclusions were reached after tests conducted by the agricultural college of the University of Wisconsin: TNT can be safely cartridge and handled for land clearing; it is a usable explosive for land clearing, its desirability depending on the cost; complete detonation and best results require the use of No. 8 detonators; moisture in land clearing operations does not materially affect the work; nor do ordinary variations in temperature; the health of the users in open-air work is not noticeably affected; amount of TNT required is 75 per cent. of the necessary charge at 20 per cent ammonia dynamite; on account of smaller quantities used, definite sizes of cartridges should be made; there may be danger from overloads if the material is not properly cartridge.

RELATIVE COSTS OF COAL AND FUEL OIL DISCUSSED

The relative cost of fuel oil and coal for vessels was discussed before the House Committee on Appropriations recently by Army and Navy officials. Capt. R. C. Smith of the Navy, Supervisor of the Port of New York, speaking of efforts to prevent ships from discharging oil in New York harbor, said that on an average 118 merchant vessels using oil, 140 oil tankers and 1160 Shipping Board vessels burning oil docked in the harbor. He said fuel oil was 20 to 40 per cent. cheaper than coal. Col. Harry Taylor, Army Engineer, said the Army had considered converting some of the sea-going hopper dredges from coal to oil burners, but investigation indicated that it was hardly worth while, as the price of fuel oil approached so closely that there would not be much saving. There was greater convenience in burning oil, as it required less number of crew and was cleaner, but as far as cost was concerned there was little difference between oil and coal. He had been informed that some of the Standard Oil refining plants were burning coal and selling their fuel oil.

INTEREST IN OIL ADDS TO GEOLOGICAL SURVEY'S DUTIES

The largest increase of work of the Geological Survey is in oil. Dr. George Otis Smith, Director of the Survey, in testimony before a Congressional Committee, said all the Eastern States are interested in oil, and the small investors look to the Survey for guidance. A rush is on to advise where oil may be found. The Survey is making studies of distribution of oil and oil production as a matter of national concern in connection with fuel oil for the Navy and merchant marine.

Dr. Smith predicted activity in the oil shales within the next two or three years. "However, in oil we are following the procession instead of leading it," he said, referring to oil companies who have more geologists than the Government. The Survey investigations were important, as they would prevent drilling where no oil is to be found.

As to coal and metalliferous deposits, Dr. Smith said that during the war the Survey did not consider coal to be a war mineral to the extent of finding new deposits because we have coal mines enough. Considerable work has been done on metals, especially steel hardening metals, in connection with the steel industry. A special steel alloy section has been organized, and the work began during the war went as far as Cuba in search for chromite and manganese.

There should be at once an investigation in connection with iron and copper in Michigan, Wisconsin and Minnesota.

Reverting to oil, the Survey is making investigations of temperatures of deep wells, finding abnormally low temperatures for the great depth of wells in Pennsylvania and West Virginia. Wells of a depth of one and one-half miles have shown a temperature of 170°, confirming the idea that it is worth while to hunt at those depths for oil and gas. If in these Eastern wells temperatures like those in the Rocky Mountains were found it would show the uselessness of hunting for oil in such temperatures because the oil would be dissipated by the high temperature. From these investigations the Survey is learning considerable regarding underground temperatures which has a direct economic bearing on oil and gas. The Survey is also making investigations to determine more about conditions which control the migration of oil from its point of origin into anticlines or domes, where it is now collected. As these conditions are discovered the Survey can advise where and where not oil or gas may be found and thus limit wild-cat explorations by companies to the areas where they have a better chance.

Another line of investigation concerns the relation between the carbon content of coals of an area with a possibility of oil in the same area. He said that in an anthracite region oil could not be found, but where carbon content of the coal goes down it can be determined whether or not it is worth while to hunt for oil. Dr. Smith said the oil shales of the West were insurance against the future, "but must not be considered as a substitute for petroleum because it involves such a large amount of labor." He estimated that the United States had only a 20-year supply of oil, although it could be 30 or 50 years under a more liberal estimate.

Oil surveys will probably be undertaken in Alaska the coming year. Oil development is promising in the Katalla field, where there has been a small development, and also further West on the Alaska peninsula.

Dr. Smith said the country's welfare depends in part upon a weekly statement of coal production. He referred to the work of the Survey last spring in urging consumers to buy coal sufficient to meet their needs, with the result that there was an increased demand for coal and an increased production. He believed the country escaped a serious curtailment of production in industries as a result of the appeal of the Survey to buy coal.

Director Smith said the statistics on mineral resources were of practical use and should be continued on a weekly basis. He referred to the co-operation of 28 coal operators' associations furnishing statistics and said local associations and the coal industry shared in the expense of getting this material together. Expenses of the coal section of the Survey approximated \$17,000 and those of the National Coal Association \$5500.

Dr. Smith referred to the rapid increase in the mineral industry, saying that the Survey was trying to meet the increased need for surveys. When he became director our mineral industry had an annual production of \$2,000,000,000, while it has now reached over \$5,000,000,000. It did not require twice as much work to get returns for 1,000,000 tons of ore as it did for 1,000,000 tons.

Director Smith said the recent land-leasing bill would involve considerable amount of specialized activity by the Survey. It will be looked to for advice and recommendations regarding the outlining of permits, the areas, and the form of the leasing blocks for coal leases. Applicants should not get more than their share of the overcropping coal. While considerable quantity of coal lands had been classified, a great amount of work remained to be done, estimated at 40,000,000 acres. The Survey would have to determine whether the 40,000,000 acres which have been withdrawn as coal land really is coal land or not. This withdrawn land is in Montana, the Dakotas and Colorado. During the war no coal land classifications were made. Preference would probably be given to oil lands.



At this writing, June 1, there have been introduced during this session 19,630 bills; 14,308 in the House and 5332 in the Senate.

The activities of both the House and Senate during the month have been confined almost wholly to the Army and Navy Reorganization measure, Merchant Marine legislation, the appropriation bills and soldier relief measures.

The Committee on Ways and Means has reported a bill to simplify the Revenue Act of 1918 by making it impossible for the taxpayer to turn over property to friends and relatives for sale in order to evade income taxes. This bill is H. R. 14198 and is reviewed in the following columns.

On May 25 the Ways and Means Committee held a hearing upon the Bill H. R. 13201 to protect the monetary gold reserve. Hearings were reopened on the 27th, and it is anticipated that the bill will be reported from the Committee before the recess.

The Senate Committee on Mines and Mining on May 25 reported favorably the Poin-dexter Bill, which permits dissatisfied claimants under the War Minerals Relief Act to take their claims to the Court of Claims. The Garland Bill, which has the same provisions is still pending action on the favorable report of the House Mines and Mining Committee. It is also anticipated that favorable action will be taken upon these measures before the recess.

The Sundry Civil Bill carries the Senate amendment increasing the Bureau of Mines appropriation for mining experiment stations from \$175,000 to \$250,000. In this connection Representative Evans of Nevada has requested the House Appropriation Committee to appropriate funds for a mining experiment station in Nevada near the State University for which the State Legislature has already appropriated \$30,000.

The Tungsten, Magnesite and Zinc Tariff Bills have all been favorably reported from the Senate Finance Committee, but no action has been taken upon them in the Senate. It is hoped by the friends of the Tungsten Bill that action can be secured before the Congressional recess.

The Seasonal Coal Rate Bill is pending before the Senate Interstate Commerce Committee, having been reported favorably by the sub-committee. No action by the full committee is expected before the recess.

Representative Raker of California introduced a bill to suspend the assessment work on mining claims for 1920 in the United States and Alaska, which bill is reviewed in the following columns. The House Committee on Mines and Mining has decided not to recommend the passage of the bill on the ground that there is no justified reason therefor.

Senate Joint Resolution 330 to create a joint commission on reorganization of administrative branches of the Federal Government was reported in the House of Representatives May 11.

H. R. 3223, granting power to the Federal Trade Commission to administer and accept inventions and patents, which passed the Senate April 6, was reported in the House May 12 and is awaiting the draft of certain amendments.

The following bills of importance have been introduced:

Division Mines and Geology

S. 4360. Introduced by Mr. Henderson, referred to the Committee on Mines and Mining. (*Division of Mines and Geology.*) The bill provides for the establishment in the Department of the Interior of a Division of Mines and Geology, to be under the control and direction of an Assistant Secretary of the Interior, which secretary shall be technically qualified by experience and education to exercise the powers and duties imposed by the bill. He is to be appointed by the President, and to receive \$10,000 a year. Section 2 provides that all powers and duties now conferred or imposed by law upon the Bureau of Mines and the Geological Survey or the directors and members thereof, which in the opinion of the President, relate to mining, metallurgy and mineral technology or the Geological Survey, the classification of the public lands, and the examination of the geological structure, mineral resources and products of the national

domain, are hereby vested and imposed in the Division of Mines and Geology. All officers and employes of the bureau and survey, or of such part of any department, commission, bureau, agency, or office the powers and duties of which are hereby vested and imposed or authorized to be vested and imposed in the Division of Mines and Geology, shall become officers and employes of the Division of Mines and Geology, and all records, books, documents, papers, etc., belonging to the Bureau of Mines and the Geological Survey shall become the property of the division. Section 3 provides that the Assistant Secretary of the Interior in charge of this division, subject to the approval of the Secretary of the Interior, may appoint, remove and fix the compensation of the officers and employes in the division as may from time to time be provided for by Congress. All such appointments, except to any position carrying a salary of \$5000 a year or over, shall be made from lists of eligibles furnished by the Civil Service Commission. The Act shall become effective 30 days from and after its passage.

War Minerals

H. R. 14073. Introduced by Mr. Oldfield, referred to the Committee on Military Affairs. (Repealing Section 50 of the Army Contracts Bill.) The bill provides that Section 5 of the Army Contracts Bill, approved March 2d, 1919 (*The War Minerals Relief Act*), shall be repealed.

Annual Assessment Work

H. J. Res. 349. Introduced by Mr. Raker, referred to the Committee on Mines and Mining. (*Suspending 1920 Assessment Work*.) The resolution provides that the provision of Section 2324 of the Revised Statutes of the United States, which requires on each mining claim located and until a patent has been issued therefore, not less than \$100 worth of labor to be performed, or improvements aggregating such amount to be made each year, be suspended as to all mining claims in the United States, including Alaska, during the calendar year 1920. Providing further that every claimant of any such mining claim in order to obtain the benefits of the resolution shall file, or cause to be filed, in the office where the location notice or certificate is recorded on or before December 31, 1920, a notice of his desire to hold said mining claims under this resolution.

Coal

S. 4087, *Seasonal Coal Rates*, was reported from the Sub-Committee on Interstate Commerce by Mr. Frelinghuysen. The sub-committee unqualifiedly and unanimously approved the bill as amended, and adopted the principle and most of the phraseology of the original bill, but provided definite differentials ex-

pressed in cents instead of in percentages, above and below the tariff rates, for the transportation of coal, and provided a graduated series of increases and decreases in such rates, varying with the months in which the transportation takes place. The substitute bill, S-4278, supersedes the original bill. The committee believes that legislation of this character requiring lower freight rates on coal during the spring and summer months and higher freight rates during the fall and winter months will tend to encourage consumers to develop storage accommodations, to accept deliveries of coal in advance of their seasonal needs, and thus to keep the mines operating more constantly throughout the year. The committee believes that it will bring about the stabilization of the price of coal; the capacity output of all the coal mines in the United States, assuming fairly constant operation, would far exceed the present consumption; it will obviate very largely the pressing necessity for more coal cars; would remedy the present inadequacy of terminal facilities; will promote regularity of employment in the mines, and would thus settle most of the outstanding grievances of the miners, and also increase compensation for the miners. It does not believe that any confusion will result from changing the rate on coal monthly by specified amounts either for carriers or shipments and that the revenues of the carriers would not be affected. That the transportation of more coal in the spring and summer will not embarrass the railroads in handling other seasonal movements of crops, etc.; and that the acquisition of more coal cars does not afford a practicable and complete remedy for existing difficulties. The committee realizes that the feasibility and effectiveness of the proposed legislation depends very largely upon the practicability of storing coal in large and small quantities. As a result of testimony and from information secured through correspondence, the committee entertains no doubt whatever but what practically every kind of coal mined in the United States can be stored safely, conveniently and cheaply. The committee report is signed by Messrs. Frelinghuysen, Townsend and Myers.

Blue Sky

S. 4430. Introduced by Mr. Capper, referred to the Committee on Interstate Commerce. (*Amending Anti-Trust Law*.) This bill amends the Act to supplement existing laws against unlawful restraints and monopolies by adding a new paragraph after Section 6, which provides that no person, firm, partnership, association, or corporation shall sell, or offer for sale, to the public in interstate commerce, bonds, stocks, or other evidences of interest in or indebtedness of any corporation or association through the United States mails or any other medium of transportation until they

have filed with the Federal Trade Commission a statement which shall be made under oath before a notary public and signed by the president, secretary, treasurer or other chief financial officer, and a majority of the board of directors, which statement shall contain the following: The names and addresses of the officers and directors and the number of shares held by each and how same were acquired; the purpose for which the corporation was organized and the general nature of its business; the location of its principal and branch offices; amount and plan of capitalization of the corporation; consideration for which stock has been and will be issued; the purposes to which the proceeds of sale of stock will be devoted; a description of the property and assets with estimated valuation; names of the promoters, fiscal agents and underwriters. It also provides for a fine of \$5000 imprisonment for one year or both for violation of the provisions of the Act and appropriates \$50,000 to the Federal Trade Commission for the fiscal year ending June 30, 1921.

Public Lands

H. R. 13851. Introduced by Mr. Hayden, referred to the Committee on Indian Affairs. (*Mining on Indian Reservations.*) The bill proposes an amendment to the Leasing Bill, which shall make available the unallotted lands within Indian reservations whenever such lands, or such portions thereof as the Secretary of the Interior may determine, are declared by the said Secretary to be subject to exploration for and disposition of the minerals, in the form and manner provided by the Act, except that such lands may only be leased and patents shall not be issued for the same and except that all moneys received from royalties and rentals from such lands shall be deposited in the Treasury of the United States to the credit of the Indians belonging and having tribal rights on the reservation where the leased land is located. The Secretary of the Interior is authorized, in his discretion, to lease unallotted Indian lands containing deposits of potassium, asbestos, precious stones and other non-metalliferous minerals under such terms and conditions not inconsistent with the Act as the Secretary may determine and announce by general regulations as best adapted to the development of such minerals. The bill specifically states that the Act will not apply to the five civilized tribes and Osage Nation of Indians in Oklahoma.

Labor

H. R. 544. A bill to provide for the establishment of a national employment bureau in the Department of Labor. This bill was reviewed originally in the May (1910) issue of the MINING CONGRESS JOURNAL, and was reported from the Committee on Labor, to which it had been referred, with amendment on May

18. The amendments to the original bill are slight. The provision for the establishment of free labor exchanges to co-operate with State agencies was eliminated and in its stead the bill provides that the Bureau may only assist and co-operate with State labor exchanges where such exchanges are under State authority and comply with the rules and regulations prescribed by the bureau, and to this end the bureau is authorized to contribute to the maintenance of the State exchange a sum not greater than the sum appropriated and spent by that State for such purpose. The only appropriation carried in the bill is \$5000 for the salary of a commissioner of employment, but if the legislation finally is enacted it will give authority for larger appropriations. Originally the Department of Labor requested more than a million dollars for this service, but opposition to the proposal resulted in its defeat. The provision also that the Bureau shall disseminate information on industrial conditions was eliminated.

H. R. 13220. Introduced by Mr. Campbell. This bill is identical with the bills which have previously been reviewed in this department, creating a Women's Bureau in the Department of Labor.

Anti-Trust

S. 4344. Introduced by Mr. Capper, referred to the Committee on Judiciary. (*Association of Agricultural Producers.*) The bill is similar to a number of bills which have been introduced during the session, and provides that persons engaged in the production of agricultural products as farmers, planters, ranchmen, dairymen or fruit growers may act together in association, corporate or otherwise, with or without capital stock, in collectively processing, preparing for market, handling and marketing in interstate and foreign commerce, such products of their members and such producers may organize and operate such associations and make the necessary contracts and agreements to effect that purpose, any law to the contrary notwithstanding. Providing further, that such associations are operated for the mutual benefit of the members thereof. No member is allowed to have more than one vote, and the association does not pay dividends on stock or membership capital in excess of 8 per cent. The Secretary of Agriculture, if he has reason to believe that such association is acting in restraint of trade, has authority to disperse the association, and the Department of Justice has power to enforce the orders issued by the Secretary of Agriculture.

H. R. 13097. Introduced by Mr. Esch, referred to the Committee on Interstate and Foreign Commerce. (*Amending the Act to Regulate Commerce.*) The paragraph entitled "First" of Section 19a of the Interstate Com-

merce Act is amended to read as follows: In such investigation said commission shall ascertain and report in detail as to each piece of property, other than land, owned or used by said common carrier for its purposes as a common carrier, the original cost to date, the cost of reproduction new, the cost of reproduction less depreciation, and an analysis of the methods by which these several costs are obtained, and the reason for their differences, if any. The commission shall in like manner ascertain and report separately other values, and elements of value, if any, of the property of such common carrier, and an analysis of the methods of valuation employed, and of the reasons for any differences between any such value and each of the foregoing cost values.

S. 4385. Introduced by Mr. King, referred to the Committee on Judiciary. (*Amending the Act to Protect Trade and Commerce Against Unlawful Restraints and Monopolies.*) The bill amends Section 1 of the original Act approved July 2, 1890, by providing that every contract, corporation, association, combination in the form of trust or otherwise, or conspiracy to monopolize or attempt to monopolize the trade or commerce in any commodity among the several States or with foreign nations is illegal. Every person who shall be a party to any such contract, corporation, or association, or shall engage in any such combination or conspiracy shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine not exceeding \$5000 or by imprisonment not exceeding one year, or by both such punishments in the discretion of the court. The bill repeals Sections 2 and 3 of the Act approved July 2, 1890. Sections 4, 5 and 6 shall be applied for the enforcement of Section 1 as amended.

H. J. Res. 350. Introduced by Mr. Flood, referred to the Committee on Rules. The bill amends Section 6 of the original Act against unlawful restraints and monopolies and provides that the Federal anti-trust laws shall be amended so as to clearly provide that contracts for collective sales of farm, orchard, plantation, ranch or dairy products by producers' associations, corporate or otherwise, are not combinations or conspiracies in restraint of trade or commerce under the anti-trust laws, and that nothing contained in the anti-trust laws shall be construed to forbid the existence and operation of such associations, or to forbid or restrain individual members, directors or officers thereof from making such collective sales and prescribing terms and conditions thereof. Section 2 provides that the Committee on Judiciary shall report a bill carrying out these principles at as early a date as possible.

Revenue

H. R. 10918. Introduced in the Senate on May 6. The bill is an amendment proposed

by Mr. King to the original bill H. R. 10874, which provides that special or dumping duty shall not be imposed in any case, unless the Collector of Customs for the port at which such imported merchandise is dutiable, shall first find and determine from the evidence before him, that the production, manufacture, sale or distribution of such commodity within the United States is not controlled by any corporation, association, combination, trust or conspiracy to create a monopoly in such commodity, and that such commodity is not sold in the markets of the United States at an unfair or unreasonable price, and the burden of proof to establish the foregoing shall be upon the importer, and unless the importer shall establish such control, said dumping duty shall not be imposed. The original anti-dumping bill was reviewed in the January (1920) issue of the MINING CONGRESS JOURNAL on page 42.

The Bureau of Internal Revenue has submitted to the House of Representatives House of Representatives Document No. 754. A supplemental estimate of appropriation, required by the Bureau of Internal Revenue for expenses of collecting the war revenue during the remainder of the fiscal year 1920. William M. Williams, Commissioner, succeeding Daniel C. Roper, in his letter to the Secretary of the Treasury asked for an additional \$535,000 for the collection of war revenue during 1920. He explains that the returns of 1917 and 1918 are now being audited simultaneously and that the Bureau has built up the force in a conservative manner, and is now turning out a much larger volume of work. The bureau records show that while as a result of audit and field investigations taxes that otherwise would not have been discovered aggregating \$149,130,148.06 were assessed for the period from July 1, 1919, to December 31, 1919. Mr. Williams says that the appropriations for the fiscal year 1921 should be at least \$6,000,000, in addition to the amount appropriated for the fiscal year ending June 30, 1920, which was \$21,000,000.

H. R. 14207. Introduced by Mr. Gould, referred to the Committee on Ways and Means. This bill amends paragraph 11 of Section 214 of the Revenue Act by providing that contributions, gifts made within the taxable year to corporations organized and operated exclusively for religious, charitable, scientific, educational, patriotic or memorial purposes, or for the prevention of cruelty to children or animals, no part of the net earnings of which inures to the benefit of any private stockholder or individual, or to the special fund for vocational rehabilitation authorized by Section 7 of the Vocational Rehabilitation Act to an amount not in excess of 15 per cent. of the taxpayer's net income as computed without the

benefit of this paragraph. Such contributions or gifts shall be allowable as deduction only if verified under rules and regulations prescribed by the commissioner, with the approval of the Secretary. In case of a non-resident alien individual this deduction shall be allowed only as to contribution or gifts made to domestic corporations, or to such vocational rehabilitation fund. Section provides that this Act shall take effect as of January 1, 1920.

Petroleum

S. 361 Introduced by Mr. Cummins, referred to the Committee on Audit and Control. The resolution states that, whereas it is generally known that the available supply of oil for fuel is rapidly diminishing, and that the time may speedily come when our Army transports, naval and merchant marine vessels will be compelled to depend upon coal to furnish their motive power; whereas when that time comes the coal fields yielding the quality of coal required for economic and efficient use on ships, and reasonably proximate to the various ports of the United States may either be exhausted or greatly advanced in value. It is resolved that the Committee on Naval Affairs of the Senate be directed to enter upon an investigation of the subject, and as soon as possible report to the Senate in recommendations; Whether it is probable that our Army transports, naval and merchant vessels now equipped to use oil will be compelled again to use coal as fuel; whether the coal fields from which coal of the proper quality for use on ships can be mined; what is the transportation cost of moving the coal from these fields to the various ports of the United States; and whether it would be good policy for the Government to acquire such coal fields as may be necessary to furnish the supply that will be needed for Government ships and our merchant marine, and what would be that probable cost of acquiring them at this time.

S. 4366. Introduced by Mr. Phelan, referred to the Committee on Public Lands. (*United States Oil Corporation.*) The bill provides for the incorporation of a company to be known as the United States Oil Corporation for the purpose of developing the oil resources of foreign countries. The corporation is to be controlled by a board of nine directors, to be appointed by the President. The board of directors shall elect a president and shall fix the compensation of its officers, experts and other employees. It may explore, develop, refine, transport and store petroleum and its products or whatever it produces, subject to a preferential right on the part of the United States Government to take all of its supply, or a portion thereof, at any time, upon payment of the market price. It is allowed to form subsidiary corporations under the laws of the District of Columbia or any State or Territory,

if in its judgment such action is necessary to carry out the purposes for which it is incorporated. It may solicit subscriptions of stock, and the total capital stock shall be determined by the board of directors. The majority of the stock, however, must be owned by citizens of the United States, although foreign citizens may be minority stockholders. The corporation is not allowed to enter into any combination, agreement or understanding, express or implied, with any other corporation, partnership, association or person, which will cause an unlawful restraint of trade, nor make any unfair, unjust or discriminatory contract against the United States or any citizen thereof in the procurement of petroleum or its products for the use of the United States. No liability shall be incurred by the corporation which will in any manner bind or involve the United States. The Government of the United States reserves the privilege of demanding reports from time to time of the activities of the corporation.

MISCELLANEOUS

H. R. 14033. Introduced by Mr. Darrow, referred to the Committee on Industrial Arts and Expositions. (*International Exhibition.*) The bill provides for the holding of an international exhibition of arts, industries, manufactures and products of the soil, mine and sea at Philadelphia in commemoration of the 150th anniversary of the signing of the Declaration of Independence; this exhibition to be held in the year 1926. Section 2 provides that a commission to consist of two commissioners from each State, the District of Columbia, Alaska, and the possessions of the United States, and eight commissioners-at-large be constituted to be designated as the Sesquicentennial Independence Commission. The commission is to select the site for the exposition and offer plans and specifications for buildings to be erected for the purpose. Section 7 empowers the President to hold a naval review in Philadelphia harbor, and to extend to foreign nations an invitation to send ships of war to join the United States Navy in rendezvous at Hampton Roads and proceed thence to said review. The President is authorized to extend to all foreign governments an invitation to take part in the exposition and to send representatives thereto. The tariff duty which is ordinarily imposed on such articles imported from foreign countries for the sole purpose of exhibition shall be removed. Section 13 provides that there shall be exhibited at such exposition by the Government of the United States such articles and materials as illustrate the function and administrative faculty of the Government of the United States tending to demonstrate the nature and growth of our institutions, their adaptation to the wants of the people and the progress of the nation in the arts of peace

and war. An appropriation of \$500,000 is given for the inaugurating, installing, maintaining and returning such Government exhibits and an additional sum of \$50,000 is appropriated for the purpose of sending of foreign goods to the exposition.

H. R. 14161. Introduced by Mr. Fuller, referred to the Committee on Judiciary. (*Common Commodities Commission*.) This bill provides that there shall be established a Common Commodities Commission, consisting of five members, whose duties shall be to establish and regulate the maximum price which shall be paid for the common necessities of life. The Commission must submit to the President of the United States each month a list of articles which it has designated as common necessities of life, and such a list shall, when approved by the President, be considered as the official list of articles upon which the Commission shall fix the maximum price. The President is given authority to fix the salaries of the Commission and any employees necessary to carry out the provisions of the Act. The President has sole charge of the activities of the Commission.

S. 4363. Introduced by Mr. Jones of Washington and referred to the Committee on Judiciary. The bill repeals all laws and provisions of law limited in their duration to the date of the expiration of the war with the Imperial German Government, to take effect at the expiration of the same period of time after the enactment of the Act as is now provided for their termination after the close of the war.

S. 4362. Introduced by Mr. Harrison, referred to the Committee on Banking and Currency. The bill authorizes the purchase at par and accrued interest from any Federal land bank, farm loan bonds issued by such bank by the Secretary of the Treasury. The purchases of such bonds shall not exceed the sum of \$100,000,000. Section 3 provides that any Federal land bank may at any time repurchase at par and accrued interest, for the purpose of redemption or resale, any bonds so purchased from it and held in the Treasury. Section 4 provides that the Secretary of the Treasury may at any time, after January 1, 1921, upon 30 days' notice, require any banks whose bonds have been purchased under the provisions of the Act to repurchase the same at par and accrued interest, and that no such bank shall be required at any one time to purchase more than one-fourth of its bonds held by the Treasury, and that at least 60 days must elapse between calls for such repurchase.

H. R. 545. Introduced by Mr. McLane, referred to the Committee on Rules. The resolution provides that the Speaker of the House of Representatives shall appoint a committee

of five members of the House, which committee shall be authorized and directed to inquire into the safety of mining and operating conditions of Lackawanna county, Pennsylvania, for the purpose of devising ways and means for the protection of life and property of the residents of that county. The Bureau of Mines is authorized to co-operate with the authorities of Lackawanna county and Scranton in trying to bring about a solution of the mine-cave problem in that county.

H. R. 13869. Introduced by Mr. Ackerman, referred to the Committee on Ways and Means. (*Acceptance of Liberty Bonds in Payment for Income and Excess-Profits Taxes*.) The bill provides that on and after January 1, 1921, it shall be lawful for all persons, firms, corporations and associations paying income and excess profits taxes to the Government to the amount of \$200 or more to pay not more than 25 per cent. of the amount due for any year subsequent to the calendar year 1919 in Liberty bonds of the first, second, third or fourth Liberty loans, or the Victory bonds of the fifth loan, and the bonds shall be accepted by all persons authorized to collect and receive taxes in all of the various subdivisions and collection districts of the United States.

TRADE COMMISSION GETS OUT ITS SOUTHERN COAL REPORT

The report of the Federal Trade Commission on the cost of production of coal during the war in Alabama, Tennessee and Kentucky has been issued and is ready for general distribution.

The report shows that wide differences existed in 1918 between the conditions met by operators in 11 districts in Alabama, Tennessee and Kentucky, for which statistics are shown. The commission in this report, as in those previously issued, warns against the drawing of deductions for the industry as a whole based on the facts shown for the various districts in this report. Conditions in the different fields throughout the country varied widely in 1918.

The present report is the fourth of a series covering the United States. These reports are of particular interest at the present time for comparison with the series of bulletins on current 1920 costs, which are being issued monthly by the Commission. The basic 1918 figures are shown in the reports in complete detail, and show the distribution, through a wide range, of the costs of the operators in each district. Such detailed information supplements that contained in the bulletins, where, necessarily, averages only can be used in comparisons, and furnishes a safeguard against making too wide generalizations from the averages shown in the bulletins.

PRESIDENT REPLIES TO SENATE AS TO PETROLEUM RESTRICTIONS

In response to a Senate resolution of March 10, President Wilson on May 17 submitted a comprehensive report by the State Department on restrictions imposed by Mexico, France, Great Britain, Holland, Japan and other countries upon Americans in oil prospecting, and steps taken by the United States to secure their removal and equality of treatment. The Department states that some of the restrictions are temporary, growing out of the war, and it is too early to say whether they may become permanent. There is nothing to show what action may be taken by the newly-formed, reorganized and unrecognized governments of Europe and Asia, many of which have important petroleum-producing properties. The Department will supplement this report later with data as may be obtained on the rapidly changing international petroleum situation.

Much of the data submitted by the Department only remotely relates to restriction on petroleum development. The Department states that in many countries petroleum has not been discovered in commercial quantities, and there is no specific legislation bearing on it except as general mining legislation might be supposed to cover it in the event of its discovery.

As to restrictions imposed by foreign governments against development of petroleum by citizens other than of their own country, the report takes up each country separately as follows:

With reference to steps taken by the American Government looking to removal of restrictions against its citizens the report states "that in general the restrictions are so drawn as to distinguish between aliens and nationals. The distinction causes discrimination to fall on aliens generally, thus only indirectly operating on citizens of the United States. In the absence of prohibitory treaty provisions this form of discrimination would seem to be justifiable from the viewpoint of international law, however impolitic it might be as regards reciprocity and international comity. The legal restrictions generally applicable to aliens are enforceable by administrative regulations, which give large play to the discretionary powers of the executive. Since this discriminatory action would seem in the absence of treaty provisions to be the only basis on which diplomatic protest could be made, the De-

partment has endeavored promptly and systematically to secure detail information regarding injuries to particular American interests resulting from alleged discriminatory enforcement of these restrictions in foreign countries with a view to making representations to these foreign governments when the circumstances should seem to warrant." Representations have been made to the Colombian Government for the fuller protection of vested sub-soil rights of American citizens.

Pending future developments, it has seemed to be the policy of the British Government in the occupied areas to prohibit prospecting for minerals, and it is believed that a similar policy is being followed in the occupied areas of the Ottoman Empire. Unsettled conditions in these regions make it impossible to predict the policy to be adopted. Final decisions on this question, however, will be of great significance because of great extensive American interests already present in those regions and the promise of future development. In connection with this policy of the British authorities the American Ambassador at London was authorized by cable on October 30, 1910, to make representations to the British Government, and assurances were received that discriminations with reference to the granting and development of concessions in the occupied regions "is not being permitted."

The Department adds that the vastly increased importance of petroleum in "gradually supplanting coal as a sinew of trade and war" is reflected in the widespread restrictive legislation above set forth. A step in the same direction in the legislation of the United States is found in the recently enacted coal and oil leasing law which the Department quotes, calling attention to a provision therein limiting development to "citizens of the United States" and barring "citizens of another country" the laws of which deny like privileges to citizens of the United States. This legislation evoked considerable interest abroad and indicates the intense international competition to secure and restrict exploitation of the world's petroleum resources. The further protection and development of American petroleum interests abroad in large measure is dependent upon reciprocal arrangements between governments. Trend in this direction is noted in a communication sent by the Department to an interested foreign government, not named, pointing out that the exclusion of Americans from other countries has given rise in America to agitation for Governmental action. The Department pointed out that the movement was based on the conviction that with respect to certain essential raw materials, the enjoyment of the same rights in foreign countries that aliens enjoy in the United States is essential to the future welfare of our

people. The movement would lose force if an agreement were made providing reciprocity, toward which the proposed legislation is directed, and expressed the opinion that the acquisition of adequate supplies of oil in emergencies "does not appear to be irreconcilably opposed to the principle of reciprocal access to supplies."

The Department says Mexico has not imposed restrictions upon Americans which are not imposed upon citizens of other foreign countries. Holdings of American interests in Mexico are so extensive that general restrictions applicable to foreigners naturally fall most heavily on Americans. Some relief may be expected from a judicial construction of the conflict which appears to exist between certain articles of the Mexican law which provide that no law shall be given retroactive effect to the prejudice of any person. Diplomatic protests were made by the American, British and French Governments against the Mexican order of February 19, 1918, which conferred extraordinary powers in the Department of Finance on the Mexican President, which was the first step in enforcing the law to impose upon private property such limitations as the public interest might demand. The State Department considered this "radical," and in a note to Ambassador Fletcher April 2, 1918, insisted that the United States could not agree to any "form of tax or confiscation of private rights and arbitrary deprivation of vested rights."

The State Department is co-operating with other departments in an economic study of the mineral resources of the world because of the vital importance of securing adequate supplies of mineral oil for present and future needs of the United States. American diplomatic representatives have been instructed to aid responsible Americans who seek mineral oil concessions in foreign countries.

RULES FOR PHOSPHATE LAND LEASES HAVE BEEN APPROVED

Secretary Payne has approved rules and regulations for leasing of phosphate deposits in the public lands. About 2,500,000 acres of lands in Wyoming, Idaho, Utah and Montana have been withdrawn from disposition for a number of years awaiting legislation recently enacted by Congress. These regulations will open them to lease in areas not exceeding 2500 acres each and should add largely to the fertilizer supply of the United States, phosphate forming an important ingredient in commercial fertilizers. Application for leases are to be filed with the local land offices for transmission to the Secretary of the Interior, and printed copies of the rules and regulations will be available to those officers and to the public as soon as printed.

RATE BILL SEEN AS ENTERING WEDGE FOR GOVERNMENT CONTROL

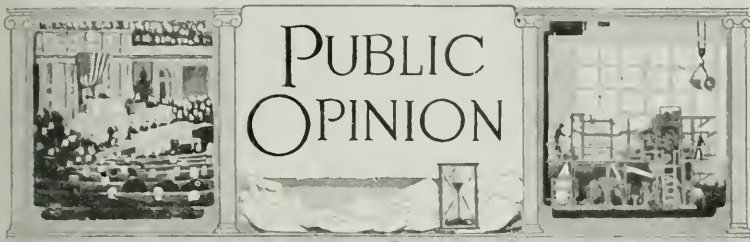
A campaign is under way to return coal to detailed Government control. The first step in the program is passage of the proposed Frelinghuysen bill—S. B. 4087—by the United States Senate. This bill provides for seasonal rates on coal. These and other charges are made in a brief just filed with the Committee on Interstate Commerce of the Senate by George H. Cushing, managing director of the American Wholesale Coal Association.

On May 11 Senator Frelinghuysen, chairman of the sub-committee, reported favorably out of sub-committee this seasonal rate bill. Mr. Cushing sought and obtained permission to file a brief in opposition to the sub-committee's report. That brief has just been filed. It declares that the purpose of the seasonal rate bill is to control distribution; that you cannot control distribution without controlling prices; that you cannot control prices without controlling cost of production; that you cannot control cost of production without controlling wages of labor, the cost of coal land and the cost of money to the coal operator; and that you cannot control the cost of production without controlling competition to the extent of saying who may open coal mines and when and where those coal mines shall be developed.

In his brief Mr. Cushing also declares that you cannot control the coal business unless you control the business of those who sell supplies to the coal mines. This means, as he believes, to establish the commission form of Government not only for the railroad and the coal industry, but for all industry in America.

In a public statement just issued Mr. Cushing charges that some advocates of this bill recognize the accuracy of his analysis of the situation. They say, however, that it is unavoidable that the Government shall, at an early date, establish the commission form of Government for all business, duplicating in all respects similar experiments made some years ago in New Zealand. He charges that New Zealand practically became bankrupt as a result of its experiment and was only saved from repudiating its debts by being able to fall back on the financial resources of England. He declares that America is heading into the same bankruptcy if this commission form of Government is established. He says that it will have no superior financial force to fall back upon to help it avoid that bankruptcy.

In his brief filed with Senator Cummins, Mr. Cushing concludes with the statement that "the way to end an impossible program is never to begin it. We believe this is an impossible program. Therefore, we advise that the experiment be not tried."



VICE-PRESIDENT MARSHALL, in a speech delivered at the Indiana State Democratic Convention May 20, said:

"I believe that the principles upon which the Republic was founded can be applied to every condition of today, as they were applied to conditions fifty and a hundred years ago and that, by the application of these principles, peace, quietude, good order and prosperity can be maintained. Public contempt for or lack of interest in the law of the land is the most dangerous menace to free institutions. Men say we must go forward. To do that I do not object. It is to desertion and going over to the enemy that I object. It is not going forward; it is going over the precipice, I fear. Did we go forward when we gave the unlettered colored man the ballot and then spent 50 years in devising plans to deprive him of it? Did we go forward when we gave the people the right to nominate and elect their Senators and then broke the bank trying to corrupt the suffrage? Did we go forward when we devised the primary and gave to money letters patent on office holding? Did we go forward when we passed the prohibition amendment and then immediately began openly and avowedly to seek ways to evade it? I hold that the Democratic doctrine of equal and exact justice to all men and of special privileges to none will meet all the angry and irreconciled views of today. The needle points always to the Pole. It does not point to the east when the wind is in the east, nor to the west when the wind is in the west. Congress errs when it gives to a howling minority what it wants just to stop the howl. It also errs when a majority adopts for a minority the policy of the stepmother when rearing her husband's large family of children, which was to find out what they do not like and give them plenty of it. Equal and exact justice for all men means for minorities as well as for majorities. There was more joy in heaven over one sinner that repented than over the ninety and nine who went astray. And there is no record that even heaven forced any man to repentance. That is where Con-

gress has been trying to beat heaven as a reformatory.

"Equal and exact justice for all men demands that the law shall take into consideration the inherent right of the individual to life, to liberty, and to the pursuit of happiness; shall protect the individual in these rights; shall punish him if he interferes with the rights of another; shall separate all citizens into the honest law-abiding and the dishonest law-breaking; shall let the honest law-abiding alone and shall punish without fear, favor or affection the dishonest lawbreaking. And to accumulate a mind which believes in these principles, it is time for us to put our flying-machines in the hangars of life and realize that while there is less speed there is more safety in walking. Government cure-alls, for the divine delinquencies of men are quack medicines which only the bedridden, spineless and incompetent pessimist will continue to take. Let us not delude ourselves into the belief that the currency and credit of this country can double, the population increase and the production remain at a standstill, and yet that the high cost of living may be reduced and peace, plenty and prosperity abound in the land. Let the man who works understand that in greater production he benefits himself as well as his fellow-man.

"Who doubts that in this enlightened age equal and exact justice applied as a principle would give to labor a fair and honest wage, would demand of labor a fair and honest day's work, would induce both labor and capital to see their duty to the ultimate consumer, would punish the profiteer and teach the laborer that he alone can make of himself a commodity? Equal and exact justice means legislation for American citizens. They alone have a right to present their grievances. Their laws should be readjusted in the interests of the entire people. Men are not entitled to equal protection of the law because they are bankers or bakers, ministers or mechanics, lawyers or laborers. For their private good and for the advancement of their own interests they have a perfect right to form, for instance,

manufacturing associations and federations of labor, but neither has a right to present a grievance to Congress as a class grievance. It is the purpose of Government to act as a yoke and not as a spiked collar. Its legislation should meet with the ready acquiescence and approval of all good citizens who do not deem the Government to be an eleemosynary institution, devised for the distribution of alms. No man can claim to be a Democrat who threatens another with ostracism or starvation because the other does not think or act as he directs. He who tells his Government that legislation is inadvisable, that it is unconstitutional, that, if enacted and held constitutional, he will appeal to the people for its repeal, acts in the spirit of an American. But he who tells his Government that he will not obey his country's law and judgment ceases to be a citizen and becomes an outlaw."

SENATOR EDGE, in discussing the Army Reorganization Bill, said:

"I am fundamentally opposed to the Government being in business, to start with. In my judgment, the sooner the Government disengages itself from private business and uses the great functions of Government, the great power of Government, to co-operate with business the better the country will be as a result."

SENATOR KING, in discussing the bonus for schoolteachers, said:

"Because there are inequalities in compensation, and because some trades and industries pay large salaries, while others pay too little, that does not justify Federal control or Federal intervention. Because one State may be richer than another is no reason why the sovereignty of that State should be attacked or power of the Federal Government be increased by an encroachment upon the States or the reserved powers residing within the people. There must be more democracy, more equality, more fraternity, more of the genuine spirit of Christian brotherhood."

SAMUEL CROWTHER, author of "Common Sense and Labor," in his new book, says:

"It is this aesthetic divorce of labor from work that is behind much of the conflict. There is a great clatter about right and only a few whisperings about work. The prevailing tendency is to agree with those who assert that the war made a new world. Nothing has happened to decrease the importance of work, and the labor problem gets down eventually to simple economics and to the controlling proposition that prosperity increases only according to the margin of production over consumption. It is possible for capital and the workers to effect a bargain and sale with a reasonable profit to both sides and without more than a natural amount of bickering.

There is enough slack in industry to provide for good wages and profits without raising ultimate prices."

SENATOR POMERENE, in an address before the Virginia State Bar Association upon Federal Railroad Legislation, said:

"No domestic problem has been presented to the Congress in the last generation which has been so difficult, so involved, and so fraught with consequences to America at the recent railroad legislation known as the 'Transportation Act of 1920.' Men whose wages were increased by the Government feared that their wages would be lowered if the properties were returned to private ownership, and, accordingly, they favored Government operation and ownership. Other men have dreamed dreams all their lives and who could not recognize an economic problem if they met it on the street under a mid-day sun, continued to dream and to hope for Government control and ownership. Most of them cared little for the effect it would have upon the country. They thought Government ownership would be something new, and by reason thereof they might be able to promote their political fortunes. They forgot that nearly every man in the country either is a shipper or a traveler, knows something about the inefficiency of Government management, and is controlled by his own experience rather than by the theories of dreamers. Our pre-war experiences as well as during the war and since, demonstrated the necessity of greater unity of operation and control of roads, rolling stock and terminals if we are to secure to the public a maximum of service at reasonable rates. If the railroads are to be extended and improved so as to keep apace with the growth and increased demands of the country, their credit must be conserved. Of one thing I am certain: these things cannot be done by Government ownership or operation. There must, however, be strict Government control over the construction, maintenance, and operation, but we must not destroy individual initiative. Whatever may have been the faults of private ownership and operation in the past, the fact is that under private ownership we have had the best and cheapest rail transportation in the world, with the best paid and most efficient labor. This is the land of plenty. No man who works, or is willing to work, need suffer for the want of food or fuel or any of the necessities of life. Why should the people in the centers of population starve and freeze while the food products are wasting in the rural districts and the bowels of the earth are filled with coal? Why should industry be paralyzed because it cannot get fuel or raw material or its finished products to the market? No man or class of men ever would clothe the President of the United States, or the Congress, or the Su-

preme Court, or any other body, in time of peace, with the power to stop the wheels of commerce on our railroads. It is too great a power to be vested in any department of the Government, and if it is too great to be vested in any department of the Government it is too great to be exercised by the would-be autocrats of the country, I care not whether they be of the capital class, the labor class, or any other class. I cherish the hope that the labor leaders of this country will take counsel of their experiences during the past few months, and that it will not be necessary for the Congress to pass any more drastic legislation bearing upon this subject. If a nation-wide strike of railroads in this country should come, the American people will send to the Congress men who will have the courage to do their bidding and not quake like aspen leaves before a few lobbyists in Washington."

CONGRESSMAN WELTY of Ohio, in an address in the House, upon the Sundry Civil Appropriations Bill, says "That the mad rush for the dollar will impoverish the nation. Labor is at least one-third less efficient now than before the war, and the farmer is now asking special laws exempting him from the operation of the anti-trust laws, so he can find a way to produce two hogs and receive the price of three, even though it is necessary for him to raise three hogs if no one should go hungry. We either must strengthen the anti-trust laws and give more power to the Federal Trade Commission, or the judiciary must be made responsive."

SENATOR EDGE, in discussing the Merchant Marine Bill, said:

"I am convinced that a majority of the American people are desirous that the American Government retire from the administering of what has heretofore been classed as private business, repeal the various laws which have provided the Government and its officials with extraordinary war power and have the Government return to its ordinary function of departmental activity and, as far as possible in these extravagant days, resume economical administration. Certainly, if we in Congress representing the American people are responsive to what I feel is an overwhelming demand to return business to private initiative, to take the Government out of business and conversely put more business in the Government, and to use the great power of the Government to co-operate rather than direct, then we must pass no additional laws that would tend to delay this return to normal conditions. I do not believe it will be necessary for the Government to administer these suggested new lines if we will offer the proper inducements to private capital to take them off our hands. It is admitted that private capital and private interests can administer

any lines at less expense than the Government. Then as a business proposition why is it not better for the Government to save this difference and spend it in some form of encouragement to private interests. I have the same confidence in the Americanism of the American business man, and believe the Government should co-operate with him as far as may be legitimate, for in helping American business the Government helps every person in the country. Let us not keep a Government of unlimited treasury resources in competition with private American enterprise, which will have all it can swing to in meeting the competition of foreign shipping. We have a law against unfair competition and restraint of trade in private business; we should have at least a moral objection to unfair competitions and restraint of trade by the Government in respect to private enterprise."

HERBERT HOOVER, who appeared before the Senate Committee on Education and Labor, favored the plan of adjustment of industrial disputes as recommended by the President's Industrial Conference and condemned compulsory arbitration as unwise. Extremists' views on both sides offered little hope of reaching constructive conclusions. The Kansas Industrial Court Law cannot be successful no more than a similar law in Australasia has prevented strikes. No revolutionary steps should be taken toward settlement of disputes before development of closer relations could be built on experience and precedent. Repression, injunction, compulsory arbitration or industrial courts cannot settle the question. They lead only to the jail and might result in compulsory labor and compulsory wage. Industry is divided into two classes: public utilities, insuring constant employment, and general industries with uncertainty of continuous employment. Collective bargaining in the latter must take form as to agreement of standards and conditions of labor. Contracts in industrial employments are not enforceable, as employers cannot agree to give work to a definite body of men and likewise employees are unable to give assurance of continuous employment on their part. There is a growing feeling among employers of the justice of profit-sharing with employees. Profit-sharing should be based on the theory that it should be in proportion to the industry and profits and not used as a weapon to reduce wages. The main agitation in industrial life is the question of division of surplus and not for a share in the management of the business.

FRANK H. SISSON, vice-president of the Guaranty Trust Company, in an address before the National Association of Manufacturers, declared that the crying need is a business government of the people, and such fundamental business services as efficient transportation, a national budget system, sound tax-

tion, a foreign trade policy, practical shipping laws, protection for American investments abroad, wise financial leadership. The popular idea of deflation is some process vaguely conceived that will reduce prices so that one's income may buy twice as much as it does now. The average man should remember there is not much advantage in being able to buy twice as much for a dollar if he does not have the dollar. The credit structure is efficiently elastic to make possible an orderly reduction in prices if means at our disposal are rightly used. The important factors which tend to hold up prices are the world shortage necessities, Government expenditures, excessive taxation, serious lack of railroad equipment, shortage of labor and unfavorable crop prospects. Organized labor either does not realize or closes its eyes to the fact that every time men employed in building trades go on a strike or shirk they penalize society, which includes themselves, by increasing cost of building, thus increasing rent and make prices for goods and services higher. An incomplete list of direct losses, due to strikes in 1910, places the cost to labor in wages at nearly \$725,000,000 and to industry at more than \$1,250,000,000. The policy of less work and poorer work with more wages, visits its penalties upon capital and labor alike.

SENATOR KING recently said that there is a new doctrine prevalent, a new federalism, that the States should assert any rights whatever. The new federalism commands that the States shall abdicate all their functions, sit down supinely, and let bureaus and bureaucratic institutions and instrumentalities and Federal agencies and parasites operate the States.

DEVISE HYDRAULIC METHOD OF HANDLING HEAVY DOORS

Development of a foolproof hydraulic system on raising and lowering heavy doors such as are used on open-hearth and heating-furnace work is announced by the Link-Belt Co.

Doors thus operated, it has been demonstrated, always go up to the proper position and always go down to the proper position, no matter what the weight.

The first installation of this system made at the plant of the Alan Wood Iron & Steel Co., Conshohocken, Pa., has been in continuous operation for 14 months without any repairs, attention or maintenance expense whatever. Five hoists, with an automatic release, are used.

On each hoist is mounted a pair of chain sheaves attached to a worm-wheel shaft between two flanges which are pinned to the shaft and supplied with fiber friction surfaces on the sides toward the sheaves. The worm

wheel is driven by a worm mounted on the shaft of a reversible motor, the worm and wheel being inclosed in suitable housing.

To raise the furnace door, the motor is started in the direction which will pull down on the left-hand chain. As long as the counterweight continues its pull, the sheaves squeeze out against the flanges, and are thereby driven in the direction which will wind up the left-hand chain and thus lift the door.

The right-hand sheave has a fixed stop on its periphery, so located that it will come in contact with a stop on the bottom casting when the furnace door has reached its proper height. With the motion of the right-hand sheave arrested by this stop, the shaft cannot rotate the left-hand sheave further, because the squeeze between the sheaves and friction flange is relieved. There is no opportunity, therefore, for overwinding, and if through carelessness the current is not shut off promptly, the shaft with its flanges will simply continue to revolve in sliding frictional contact with the sheaves, but without the power to grip and rotate them further.

For lowering the doors, the direction of the motor is reversed, and practically the same process repeated, except that in this case the power of the motor is used to lift the counterweight, while the pull from the weight of the door serves to keep the sheaves squeezed apart against the friction flanges, until a stop on the left-hand sheave engages with a stop in the bottom casting, and prevents overwinding of the counterweight chain in the same manner as described for the other sheave.

The stop features do away with the automatic electric switch devices which have proved so troublesome for this type of hoist, as well as for skip hoists; and they secure an exact stop for all such hoists without involving failure from human carelessness or complicated electrical equipment. The motor is started, stopped or reversed, and the door raised or lowered, by simple push-button mechanism.

Various other applications of this device may suggest themselves. Literature on this hoist is available from the manufacturers.

MINTS GET STANDING ORDER TO BUY SILVER AT \$1 AN OUNCE

The provisions of the Pittman Act are mandatory and, in accordance with them the Secretary of the Treasury has given standing orders to the Director of the Mint to buy silver at \$1 per ounce, 1000 fine, delivered at the option of the Director of the Mint at the Assay Office in New York or the mints in Philadelphia, Denver and San Francisco, up to the aggregate amount of 207,000,000 ounces. Under the terms of the Act the silver so purchased must be the product both of mines situated in the United States and of reduction works so located, and clear and unequivocal proof to that effect will be required. Forms for such proof may be obtained at Assay Office and mints.



Under this heading THE MINING CONGRESS JOURNAL will hereafter carry a concise review of various orders, opinions and reports affecting freight rates throughout the country issued by the Interstate Commerce Commission and the Railroad Administration or any organization that may be made by law to succeed in any way to the functions of these two departments. The purpose is to get before our members the principal government mandates which affect our commodities, with a view to eliciting inquiries. It is not practicable to include much detail, but we are so equipped that we can give, upon inquiry, a full and complete analysis of any of the traffic problems which are brought to our attention. We hope that this chapter will be of interest and that you will advise us of your problems in order that we may give to each one the personal and complete attention which it cannot have in a review of this character.

GENERAL NOTICES

Advance Rates.—During the past week the Interstate Commerce Commission has been considering applications made by the carriers throughout the country for increases in rates in order that their income may be brought up to the $5\frac{1}{2}$ per cent. or 6 per cent. specified in the Transportation Act. The carriers have filed very extensive exhibits and statements which purport to show that the Eastern District will require an increase in freight rates of 30 per cent., the Southern District 31 per cent., and the Western District 24 per cent. Various witnesses for the carriers have been put on the stand to substantiate the railroad claims. Adjournment has been taken until Monday, June 7, at which time the carriers will be cross-examined. Following this the shippers opposing these increases will be

heard in the following order: First, all general objections; second, objections to the advances in the East; third, objections to the advances in the South, and fourth, objections to the advances in the West. Beyond this somewhat indefinite program the Commission has not outlined how the shippers will be heard. It is probable that limited time will be found for each shipper or group of shippers to state his case. At the present time shippers' objections are of different kinds. Some object to the amount of the increase; others, to the fact that the carriers base their figures on book value, which is said to be badly inflated. Some groups want the increase distributed over passenger rates, *et cetera*, as well as the freight, and probably the largest number of shippers will object to the percentage increase instead of a flat increase in cents per 100 pounds. The carriers will apply the increase granted to all commodities and endeavor to arrange, in due course, the disrupted relationships.

Car Service.—The matter of car service has been engaging the earnest attention of the Commission during the past month. Following a request by the carriers that the Commission use its emergency powers over car service to the fullest extent, an order was issued permitting all carriers to route freight via the shortest available line without reference to the routing shown by shippers. The rate via the route traffic would have moved is to be protected. Other orders have been issued requiring certain carriers to turn over to certain other carriers equipment necessary to relieve congestion. Terminal committees have been appointed at all the principal railroad centers in the country. These committees consist of four representatives—one from the Commission, one from the carriers, one from the shippers and one from the State or public utility commission. These committees are to make recommendations which, it is hoped, will relieve the congestion at various points. The Car Service Commission of the American Railroad Association is also co-operating to the fullest extent. In short, the Commission, the railroads and shippers' organizations are all co-

operating with a view of relieving the existing congestion and getting the transportation of the country into normal condition again.

Loans.—The Interstate Commerce Commission will conduct a hearing for the purpose of determining just how the revolving fund of \$300,000,000 shall be distributed, and it is quite generally understood that the Commission desires, as far as possible, to get a substantial proportion of this fund at work supplying new equipment, which is so badly needed.

Suspension.—The Commission has entered an order suspending a schedule of the Buffalo, Rochester & Pittsburgh Railway, which proposed the cancellation of joint through rates on bituminous coal from Dias, Meshbon and other points in Pennsylvania on the Buffalo, Rochester & Pittsburgh Railway to Eastern destinations. A hearing will be held and an opinion handed down before these rates are allowed to become effective.

Decisions of the Interstate Commerce Commission

Coal.—In a case brought by Meeker & Company, the Commission has awarded reparation on account of unreasonable rates charged for the transportation of anthracite coal in prepared and pea sizes, in carloads, from the Melville colliery in the Wyoming anthracite coal region of Pennsylvania to Elizabethport, N. J., for reshipment by water.

A similar report has been issued in a case brought by the Red Ash Coal Co.

In another case of Meeker & Company the rates on anthracite coal, pea size, in carloads, from Wayne washery, Clemo, Pa., to Undercliff (Edgewater), N. J., for reshipment by water, have been found unreasonable and reparation has been awarded, although on sizes smaller than pea no finding of unreasonableness was made.

Demurrage charges at Minotola and Bridge-ton, N. J., on certain shipments of bituminous coal were not found unreasonable in a case brought by the Cumberland Glass Manufacturing Co.

Switching and Spotting Services.—The United States Cast Iron Pipe & Foundry Co. filed a complaint with the Commission alleging that the performance by certain carriers of switching and spotting services in Birmingham for its competitors results in undue preference to those industries. The Commission has handed down a decision holding that the operations of complainant are not such as could or should be required of the defendant carriers. The Commission finds the services performed for complainant's competitors to be entirely dissimilar from those performed by the complainant for which it seeks allowances.

TENTATIVE REPORTS

Docket No. 9613.—Cameron Coal Co., et al. v. Atchison, Topeka & Santa Fe Railway Co., Director-General, et al.

A tentative report in this case has been proposed by Examiner M. W. Knowlton, the syllabus of which is as follows:

"Rates on coal from Utah mines in the Helper district to points in Idaho, Montana, Oregon, Washington and California not found unreasonable, unjustly discriminatory or unduly prejudicial.

"Rates from Utah mines to points in Colorado, Kansas and Nebraska on the lines of the Union Pacific Railroad Co. and Chicago, Rock Island & Pacific Railway Co., and to Kansas City and St. Joseph, Mo., and Council Bluffs, Iowa, not shown to have been unreasonable or unduly prejudicial. Prayer for the establishment of joint through rates to the latter points denied. Complaint dismissed."

Docket No. 11106.—United Iron Works, Inc., v. Director-General, St. Louis-San Francisco Railway Co., et al.

A tentative report in this case has been proposed by Examiner F. H. Barclay, the syllabus of which is as follows:

"Rates of 36 and 45 cents per 100 pounds, effective prior to and on and after June 25, 1918, respectively, charged on six carloads shipments of bar iron from Sand Springs, Okla., to Pittsburgh, Kan., found unreasonable to the extent that they exceeded and exceed 20 and 25 cents per 100 pounds, respectively. Reparation awarded."

Docket No. 11139.—Texas Carnegie Steel Association v. Director-General, as agent, Baltimore & Ohio Railroad Co. et al.

A tentative report in this case has been proposed by Examiner F. H. Barclay, the syllabus of which is as follows:

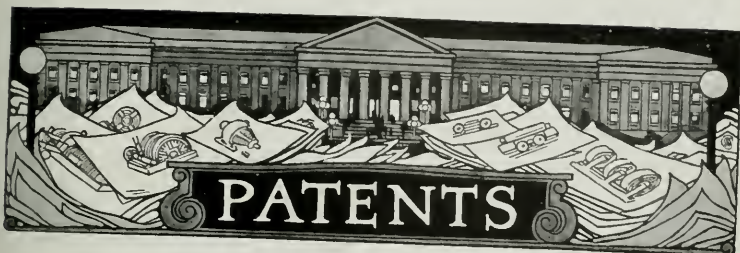
"1. Rail-and-water rates on cold-rolled or drawn-steel bars, bar iron (polished), and shafting, carloads, from Beaver Falls, Pa., and Cumberland, Md., to Galveston, Tex., via New York, N. Y., found unreasonable to the extent that the water rate from New York to Galveston, applied as a proportional, has exceeded or may exceed the rate contemporaneously applied on merchant steel from New York to Galveston by more than 5 cents per 100 pounds. Reparation awarded.

"2. Fourth section relief denied."

Docket No. 10906.—The Cambria Steel Co. v. Director-General, The Pennsylvania Railroad Co. et al.

A tentative report in this case has been proposed by Examiner T. M. Woodward, the syllabus of which is as follows:

"Defendants' practices with reference to an allowance paid to complainant for terminal services performed by it at its plant at Johnstown, Pa., not shown to be or have been unreasonable or unduly prejudicial. Complaint dismissed."



CONDUCTED BY JOHN BOYLE, JR.

1,335,723—*Leroy W. Campbell*, Grand Rapids, Mich.

Tunnelling Machine of the type provided with a rotatable radially movable cutter bar.

1,335,758—*Walter A. Schmidt*, Los Angeles, Cal. Assigned to International Precipitation Co.

Electrical Precipitator, involving the process of selectively separating particles of different size, consisting in passing the gas successively at substantially uniform velocity through a series of electric fields of substantially similar intensity and substantially uniform cross sectional area to produce a succession of electrical actions on the gas in such manner as to precipitate successively particles of progressively smaller size and collecting separately the different sizes of precipitated particles.

1,335,824—*Emil and Wm. F. Deister*, Fort Wayne, Ind. Assigned to Deister Machine Company.

Ore Concentrating Table, adapted especially for treating material usually treated on jigs and having its deck transversely inclined downwardly, a series of main riffles and a series of displacement riffles between the main riffles and abutting the lower sides of the main riffles.

1,335,880—*R. D. Dodds*, Houston, Tex.

Sampling Device for Oil Wells for the purpose of obtaining samples of the formation through which the drill bit is passing as the boring of the well progresses.

1,335,975—*L. F. Layne*, Houston, Tex. Assigned to Layne & Bowler Company.

Well Screen of the type in which a foraminous well tubing is employed and about which is wrapped the wire which constitutes the screening element, and the object is to put the screening wire in place simply and expeditiously.

1,336,015—*Richard Burnhard*, Allentown, Pa. Assigned to the Traylor Engineering & Manufacturing Co.

Gyratory Crusher in which the lower bearing for the shaft will be self-aligning, and in which efficient means are provided for inclosing and lubricating the running parts.

1,336,030—*George McCarter*, Denver, Colo.

Coal-Mining Machine in which there are vertically spaced endless cutters mounted to cut forwardly and laterally in the working face, a conveyor arranged at the rear of the cutters and a scoop arranged at one side of the machine for directing coal to the conveyor when the machine is making a lateral cut. The object is to produce an intermediate stratum of coal which can be removed to form an opening or sump extending the entire length of the working face and of sufficient height to produce enough drop above the body of coal to prevent locking or wedging when broken down.

1,336,327—*C. H. Wright*, Washington, D. C.

Concentrating Table on the surface of which the riffles are terminated so as to form a diagonal, substantially straight line over the upper half of the table and a convex curved line relative to the lower side of the table over the lower half of the table, the straight and curved line together forming a convex line, the table having a dressing zone upon which all of the riffles open.

1,336,410—*Edward O'Toole*, Gary, W. Va.

Coal-Mining Machine for removing coal from the sides or ribs of the entry, and provided with means for mechanically collecting and handling and delivering the cut coal into cars.

1,336,444—*O. J. Saulsbury*, Salt Lake City, Utah. Assigned to United Filters Corp.

Method of Filtering, involving the step of drying the filtered cake *in situ* by heat

applied to the cake in the direction of the passage of the filtrate prior to the removal of the cake from the filter medium.

1,336,553—*W. E. Darrow*, Sutter Creek, Cal.
Slime Thickener, including a tank, a plurality of funnel-shaped floors therein on which the slime is adapted to settle, an open-ended pipe extending into the tank from the top and central thereof and terminating short of the bottom, the pipe being adapted for rotation in the tank and means on the pipe whereby with the rotation thereof the slime on the floors will be removed therefrom and passed into the pipe to be deposited on the bottom of the tank.

1,336,697—*A. Harter*, Los Angeles, Cal.
Electric Amalinator, in which the mercury is placed in a trough and an electromagnetic agitating and separating unit is rotatably mounted in the trough.

1,336,693—*A. E. Keables*, San Francisco, California.

Combination Concentrator and Classifier, including a series of revolving screens and means for maintaining the screens and material handled submerged in water when the machine is operated.

1,337,063—*J. A. Fryer and W. W. Wallace*, Tulsa, Okla.

Torpedo for Shooting Oil Wells.

1,337,094 and

1,337,095—*Chas. L. Peck*, New York, N. Y.
 Assigned to Dorr Company.

Sedimentation Apparatus, comprising a tank, a revolving sludge well open at the top and communicating with the bottom of said tank and disposed within the tank and adapted to be substantially surrounded by the liquid material contained in the tank, and means for withdrawing sludge from said well so as to maintain a difference in hydrostatic head between the material outside said well and the sludge within the well, and for thus inducing a flow of sludge into said well through the bottom thereof.

1,337,488 and

1,337,489—*W. W. Strong*, Mechanicsburg, Pa. Assigned to Research Corporation, N. Y.

Method of Regulating the Velocity of Fumes Passing Through Electrical Precipitators.

1,337,496—*J. M. Hingett*, Denver, Colo. Assigned to W. A. Haggott, Trustee.

Process for Treating Coal to harden the same preparatory to shipment to the market or storage, which comprises passing the coal through a closed chamber and sub-

jecting it to heat therein, the degree of heat being sufficient to drive off certain of the volatile constituents only adjacent to the surface, the heavier oils being caused to move to the surface and dried, giving the coal a hard exterior, which protects it against exposure to the atmosphere and prevents the formation of dust and slack.

1,337,542—*H. Cannon, C. Barbre and E. H. Leslie*, Los Angeles, Cal. Assigned to General Petroleum Corp.

Process of Producing An Ore Flotation Agent comprising extracting water from mixtures containing water and petroleum oils and concentrating said water by evaporation North American Corporation.

1,337,548—*Edwin Edser and Stanley Tucker*, London, England. Assigned to Minerals Separation North American Corporation.

Flotation Process, involving the use of a small proportion of sodium silicate and a sufficient quantity of soluble soap to produce a froth.

1,337,943—*Jas. A. Nolan*, Bowerston, Ohio. Assigned to the Mining Safety Device Co.

Safety Device for Mines, comprising a mechanism whereby the wheels of a car may be effectively gripped so that the car will be held against displacement during the dumping operation.

1,337,944 and

1,337,945—*Jas. A. Nolan*, Bowerston, Ohio.
Mine-Car Cager designed to automatically stop cars on a cage or dump in position for hoisting or dumping; also to feed cars of coal or ore to a cage or dump at the bottom, top or intermediate landings of a mine shaft, and also to automatically release the car after the same has been emptied.

1,337,948—*F. L. Parr*, Huntington, W. Va.
Automatic Checking and Stopping Apparatus for Cars, and the object is to provide a mechanism carried by the car and adapted to be moved into engagement with a truck and thereafter operating to gradually check and stop the car.

1,338,046—*Klaus Sollie*, Youngstown, Ohio.
Mine Car in which the body is provided with wheel-receiving openings in the bottom thereof, and bracing members extending transversely of the bottom thereof and forming coverings for said opening.

1,338,232—*J. A. McCaskell*, Salt Lake City, Utah.

Filtering Belt in which suction is applied during its travel, and one of the leading objects is to connect a unitary filtrate wheel

having radial passages with the filtrate chamber of the belt at a number of points.

1,338,237—*Jas. O. Mack*, Alexandria, La.

Tunnelling Apparatus in which combination with the excavating instrumentalities is means for providing a lining to the excavation as the operation proceeds.

1,338,264—*E. B. Thornhill*, Ottawa, Canada. Assigned to the General Engineering Co.

Flotation Process, involving coagulating certain minerals in preference to others by flotation, screening the resultant concentrates, whereby the coagulated mineral is held on the screen and the uncoagulated ones are passed through and returning the same back into the original feed for retreatment.

1,338,202—*B. Q. B. Foss*, San Francisco, Cal. Assigned to the Foss International Ore Reduction Co.

Apparatus for Desulphurizing and Treating Ore, involving heating the ore to dry the same and remove volatilizable constituents and applying thereafter cold water to reduce the ore to a friable state.

1,338,421—*Robt. H. Challacombe*, San Francisco, Cal.

Pulverizing Apparatus.

1,338,460—*Jas. D. Morrison*, Reinbeck, Iowa.

Well-Drilling Device, and the object is to secure a reliable indication of the presence of oil or gas bearing strata while being traversed by the boring tool in advance of sealing the porous wall of the well borer.

1,338,601—*Frank L. O. Wadsworth*, Pittsburgh, Pa.

Rotary Drill Bit, comprising a head and two disk cutters almost but not quite horizontally rotatable, mounted on the forward end thereof, the said cutters having lower, slightly inclined end cutting and disintegrating faces adapted to dig the entire bottom of the hole and peripheral surfaces so arranged as to make contact with the wall of the hole over substantially their entire width.

1,338,613—*O. H. Cilley*, Westford, Mass. Assigned to C. G. Sargent's Sons Corporation.

Method of Refining Asbestos, which consists in dry-dusting it to removing the lighter impurities, then washing it to eliminate the heavier non-fibrous impurities, thereafter draining out the water, mechanically pressing the water out of the fiber, then opening up the fiber and drying it.

WAR MINERALS BILL PASSES SENATE—OTHER LAST MINUTE NEWS

As this issue of THE MINING CONGRESS JOURNAL goes to press the situation with regard to legislation affecting the mining industry is as follows:

The War Minerals Relief Bill, giving authority to the Court of Claims and to the Supreme Court of the United States to pass upon awards made by the War Minerals Relief Commission was passed by the Senate. The House failed to take action and Congress adjourned, thus making it necessary for the bill to begin again its legislative course.

Senator Henderson introduced a bill to authorize loans on silver bullion. His bill provides that the Secretary of the Treasury may make loans on silver bullion deposited with the Treasury Department. The idea is to give the producers of silver practically the same advantages that are enjoyed by farmers in securing loans on the commodities that they produce. The bill further provides that smelters must deliver, on request, the actual amount of silver contained in ore given them for refining. Penalties are provided for failure to deliver all the silver contained in such ores.

The Frelinghuysen bill, providing for seasonal coal rates, was not considered by the full committee on Interstate Commerce before the recess.

After having been in a conversational stage since 1890, the Congress finally agreed on a water-power policy. The bill, however, failed to become a law because the President withheld his signature. This bill provided for a Federal Water-Power Commission to consist of the Secretaries of War, Interior and Agriculture. The commission is to have an executive secretary, who will be in immediate charge of the handling of all water-power licenses and permits on public lands and navigable streams. The measure had the approval of a substantial majority of each House.

Carbon and Carbon Black

There seems to be some confusion between the terms carbon black and lampblack, although in American trade lampblack is generally understood to be a soot formed by the smudge process. In this process oil, coal tar, resin or some solid or liquid carbonaceous substance is burned in an insufficient quantity of air; while, on the other hand, carbon black is a product resulting from the incomplete combustion of gas, and is deposited by actual contact of flame upon a metallic surface.—Bureau of Mines.

G. H. CLEVENGER of New York, vice-chairman of the National Research Council Engineering Division, and consulting engineer for the American Mining & Smelting Co. in Pachuca, Mexico, was a recent visitor to Washington in connection with the Bureau of Mines.

New Edition of Chart

A new edition has been prepared of the chart for blending casinghead gasoline and naphtha, computed by Clarence Netzen for the Bureau of Mines, Department of the Interior. This chart provides an easy method of determining the amount of naphtha to be used per gallon of casinghead gasoline to obtain a product of any required gravity. It has been found of value by producers of casinghead gasoline and by the oil refiners. A copy of this chart will be sent to any interested person on application to the Bureau of Mines, Washington, D. C.

THE immense grain elevator of the Pennsylvania Railroad at Canton, near Baltimore, one of the largest on the Atlantic seaboard, began operations with a successful testing out of the machinery and a trial with a large amount of grain which has been received there.

Baltimore grain merchants are anticipating the full operation of the elevator in a short time, and it is expected that the facilities for speed in loading and unloading grain will add impetus to the export of grain from Baltimore. The elevator has a capacity of 4,257,000 bushels, whereas the other seven elevators now in use here have only a total capacity of 10,000,000 bushels. The grain-storage capacity at the railroad terminals, therefore, will be increased nearly 43 per cent.

This monster grain elevator is equipped throughout with elevator and conveyor belting made by the B. F. Goodrich Rubber Co. This represents the largest single order of belting ever shipped, and it required seven box cars to transport it from Akron to Baltimore. The belting totaled 44,254 feet, approximately 8½ miles, and weighed 131 tons. The capacity of one of the 48-inch horizontal carrier belts is 350,000 bushels in a 10-hour day.

Accommodations are provided for the loading of five ocean liners at once, and with the new apparatus for loading that has been installed the ships can be loaded within 10 hours.

In conjunction with the facilities that have been made for handling ship cargo, the latest device for the unloading of grain railroad cars has been put into operation and found to have proved a large factor in the expeditious handling of incoming grain from the Maryland, Virginia, West Virginia and Middle Western districts.

D. Gleisen, manager industrial bearings division, Hyatt Roller-Bearing Co., has appointed W. F. Myers to be directing transmission engineer, effective at once. In his new position Mr. Myers will be responsible for the sale of Hyatt line shaft roller-bearings, and as he has been doing field work with the Hyatt agents throughout the country for over two years he is well qualified to effectively handle this work.

PERSONAL

VICTOR RAKOWSKY of Joplin, Mo., spent several days in Washington during the month in the interest of tax matters relating to the Joplin zinc district.

A. SCOTT THOMPSON, chairman of the Mine Taxation Committee of the American Mining Congress, is at the Washington headquarters for several days giving special attention to tax matters in the Joplin zinc district.

JOHN J. HAAK, who has spent the last six months in Washington and New York in the interest of the producers of war minerals and who has rendered such valuable service in the war minerals relief legislation, has returned to his home at Portland, Ore.

JOHN T. BURNS, assistant secretary of the American Mining Congress, is again at the Washington headquarters after an extended trip to Colorado, where arrangements have been made to hold the 23d annual convention during the week of November 15. Mr. Burns will open the convention headquarters in Denver early in July.

FALCON JOSLIN of Seattle, Wash., and Alaska, who has been spending several months in the East, has returned to his home and is planning to spend the summer in the Katala oil field, where he is developing several oil properties.

H. P. BINSWANGER has removed his office from 203 Broadway to No. 7 West 16th street, New York City.

CHARLES HAYDEN, chairman of the board of Rock Island Railroad, is in the West upon a tour of inspection over the entire system, after which he has planned to join Mr. D. C. Jackling on a visit to the mining properties of the Hayden-Stone interests. He will return to New York the early part of June.

DAN HARRINGTON has been appointed as the fifth member of the Washington State Coal Commission, which is provided for in the Coal Mines Report.

R. W. STURGEON of Pennsylvania resigned, effective May 15, from the position of Chief of the Coal Valuation Section of the Income Tax Unit, Internal Revenue Bureau, Treasury Department, and was succeeded by G. M. S. Tait, Washington, D. C.

JUDGE WILL R. KING of Oregon resigned as Chief Counsel of the Reclamation Service, and will be succeeded by OTTAMAR HAMELE of Oklahoma.

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

ANNOUNCEMENT

No one question has commanded more attention of all mining companies during and since the war period than that of Federal taxation. Industries which heretofore have not been called upon to directly contribute to the support of the Federal Government have been obliged to assume very great burdens in this behalf. The mining industry, because of the wasting character of its assets, has been unduly burdened and its tax questions have been complicated by various problems which did not apply to other lines of industry.

The efforts of the American Mining Congress to secure a complete recognition of the principle that net income could not be arrived at until provision had been made for depletion, and the necessity that the assets of every mining company should be physically as valuable at the end of the tax year as they were at the beginning, have been largely successful. Our contention for what was called the doctrine of replacement has been recognized in a broad way, but the direct application of these principles to individual cases has led to great confusion, and the Internal Revenue Department has still many cases arising under the law of 1917 which have not yet been settled. These many problems have been as difficult for the Internal Revenue Department as for the taxpayer, although the necessity upon the taxpayer to present his case in Washington has entailed in many instances enormous expense which should have been avoided.

With the hope that the American Mining Congress can be of further aid in these matters, both to the Internal Revenue Department and to the taxpayer, it has been decided to create a tax division under the direction of a man who has given tax matters thorough and careful consideration, and who will be in position to render assistance to both the Government and taxpayer in accomplishing that which both desire, namely, the assessment of a proper tax in such a way as to enable the Government to collect sufficient money to meet its requirements and to enable the taxpayer to see the justice of this tax, and to effect a settlement promptly and with the least expense possible. This tax division does not propose to act as the direct representative of any taxpayer, but simply to assist the taxpayer's representative in harmonizing differences which may arise and of simplifying the returns as presented to the Internal Revenue Bureau in order that its burdens may be decreased and more prompt settlements of tax matters be effected.

FUEL OIL VS. COAL

Those who marvel at the continual rise in the price of oil overlook entirely the circumstance that oil when used for fuel produces something more than power. Oil may be substituted for coal underneath a boiler, but coal cannot be substituted for oil in the internal combustion engine. Coal will drive a vessel many days across the sea, but oil will send the ship across and back again. Economy

of storage space results in a saving of time; therefore, in greater speed, and speed, while perhaps not always indispensable, is certainly well-nigh indispensable in these hustle-bustle times. In war time a greater cruising radius because of added fuel-carrying capacity is equal to many fleets and many armies.

In peace time the added efficiency of oil-burning engines in the foreign-carrying trade gives a decided advantage. The world trade of the future will be controlled by those nations whose merchant marine is propelled by oil-burning engines, and the Government is to be commended for conducting expensive surveys of new petroleum fields which give promise of profitable development by private enterprise. And it will be well if the price of petroleum is such as to force the use of coal wherever it can be used with equal efficiency.

NOTICE TO I. W. W.

The service bureau of the American Legion in Kansas has posted notices in the wheat sections containing a proclamation from the Legion in the following language:

NOTICE TO I. W. W.

"Any red card I. W. W.'s coming into the wheat belt are directed to the following farmers who belong to the Non-Partisan League, which is fraternally affiliated with the I. W. W., and who doubtless would gladly employ their comrades in the common cause,

(Then follow names and addresses of farmers.)

"I. W. W.'s are not wanted by anyone else, and notice is hereby given that the service bureau, American Legion posts, of this wheat belt will furnish quick transportation if necessary."

The *Non-Partisan Leader*, official publication of the Non-Partisan League, calls this "a brutal insult to law-abiding farmers." Possibly so, but it expresses quite clearly the exact sentiment of the millions who have suffered in past years from the sabotage performed by ruffians who boast of being members of the I. W. W.

A GOOD FIGHT.

Mineral producers who besought Congress to give their industries the protection necessary for existence in post-war conditions left Washington bitterly disappointed at the failure of Congress to recognize the necessity and importance of offering security to these basic parts of our commercial fabric.

When one considers, however, the fate of some other measures for protection which were introduced in Congress this year, the mineral producers can take heart over the record they have made. The good faith and integrity shown in their requests for protection for their industries has not been questioned nor been made the basis of dispute. Their efforts to secure this needed protection have been based on present conditions of the industries and the necessity of these industries to the country at large. On their indefatigability in presenting these facts relative to their various industries to the members of Congress and on the splendid clean record that they have made before the first session of the Sixty-sixth Congress they are to be heartily congratulated. It is a record that will build much toward capping their future efforts for this needed protection with success.

A DIPLOMATIC FAUX PAS

Elsewhere on these pages mention is made of the intelligent clean fight made by the needy branches of the mineral industry for protection for their industries.

Other fights have probably been just as clean, but it must be admitted that they have not been handled so intelligently.

With the nominations of both political parties made, it is a safe and proper time to philosophize on the effect of a certain letter from the head of the publicity department of the Du Pont interests to Senator Moses regarding the dyestuffs tariff and its possible connection with the candidacy of Senator Moses' protegee, Leonard Wood. After Senator Moses read this letter on the floor of the Senate there was not a member of that body who dared thereafter vigorously espouse the

dyestuffs tariff. The interesting thing about it is that there was nothing particularly improper in the letter. It contained nothing that could not have been stated in an interview between the two gentlemen without the least impropriety. Yet by the tactical error in handling this delicate situation by correspondence, which formed an imperishable record, the dyestuffs industry brought down on its somewhat undeserving shoulders all the recrimination and extravagantly derogatory adjectives of every demagogue and congenital muck raker in the public press. Unfortunate, indeed, and especially so because it was so entirely unnecessary.

Certain people interested in the dyestuffs tariff made the statement at one time that the mineral industries were trying to get a free ride on the Dyestuffs bill. Inasmuch as this was at no time the case, the mineral industries now have the same feeling that a man has who neglects to buy a ticket on a train that is later wrecked.

BLUE-SKY LAWS

The value of advertising has never been more effectively illustrated than in its relation to blue-sky laws. Among the first of the effective blue-sky laws was that known as the Pardee law, so named after the then Governor Pardee of California, who was chairman of the American Mining Congress committee which recommended the enactment by the various State legislatures of a law which made misrepresentation of any material fact relating to the value of mining stocks offered for sale a misdemeanor punishable by fine and imprisonment. The consummation of the fraud was not essential to the effective operation of this law; the only thing required was evidence that a misrepresentation had been made, and it was not required, as under the laws against false pretense, that someone should be swindled before the penalties were incurred. This law was enacted by a number of States, but was not properly advertised, and therefore did not attract popular attention.

Later the so-called Kansas blue-sky law was enacted, which required any person offering stocks for sale to first secure a State license, before the granting of which a full disclosure of the facts surrounding the offering was required. Various States have enacted laws more or less patterned after the Kansas law. These laws have accomplished much of good and much of harm. The harm grew out of the fact that legitimate oil and metal promotions found it difficult to meet the requirements of the law and still be fair to their stockholders. This difficulty grows from the fact that every mining and oil development in its early stage carries with it a hazard so great that no conservative banker would approve the investment to others, even though he might be willing to invest his own money therein.

All promotions carrying heavy hazard necessarily promise large returns in case of success. It has been stated by the representative of a large development organization that during years of his service for this large corporation only one out of 100 propositions offered were approved for further examination, and that approximately one in 20 of those of which examination was made proved to be valuable enough to induce the purchase of the property by the development syndicate.

This does not prove that the 99 out of the 100 propositions offered were without value, nor does it prove that 19 out of 20 properties examined were valueless. It only proves that this particular organization was unwilling to take over but one of the 20, either because the proposition was not large enough for its operation, or because the price fixed was out of proportion to the actual value disclosed, or that the property did not show sufficient value to justify further expenditures.

Every prospect offered carries something of the above hazard, and no one by any possibility can predict correctly what conditions will be disclosed by development work. Someone must take the risk which is incidental to the development of mining property if the mining

business is to continue. The war has demonstrated that the public welfare is very largely dependent upon mineral production. It is a well-recognized fact that all mines will some day become exhausted. Some copper mines have a life of 40 or 50 years; some coal mines have a life of 20 years; a zinc mine in the Joplin field is usually equipped with a mill with a capacity which will exhaust all the ore within economical hauling distance by two and one-half years of continuous operation. If all development of new mining properties is to be discontinued because no one is willing to undertake the hazard of their development, our presently worked mines will be exhausted in a few years and the nation will be without a supply of minerals. It is therefore vastly important that prospecting shall go on continuously, and from the figures given above it is evident that not to exceed one in ten of the well-chosen prospects will become a large producer of minerals. Any blue-sky law which prevents investment in mining prospects, all of which carry these hazards, is not only a bad law, but it is a law which becomes a public menace. The public is entitled to know the facts about any mining promotion which is offered for investment. Being advised of the facts, any law which prevents the taking of the risk which mining investments necessarily carry does not serve the best interest of the public.

There is need for careful consideration of this subject. Laws should be enacted not to protect the fool against himself, but to make it possible for every investor to know the facts, to be able to measure the hazards undertaken, to require that money contributed for development work shall be spent for development work. With these precautions, any law which practically forbids investment in mine development is necessarily inimical to the public welfare.

HEADS I WIN; TAILS YOU LOSE

While discussing the question of blue-sky laws it is but fair to say that no blue-sky law can protect the public against

some of the alleged investments which are now being offered. For instance, a proposition is now being offered the people of the city of Washington to purchase units in an alleged oil-development enterprise in a Western State. The promoters have secured leases upon a large tract of land, and they propose to sell 1000 units in this enterprise at \$100 per unit, each unit carrying with it the transfer of a lease upon 34 acres of this land. Of the \$100 received, \$2 per acre, or \$68, is to be paid to the promoters who own the lease for a transfer of a half interest in that lease; \$32 of the \$100 paid for each unit is to be paid into a development fund; in other words, the promoters turn in leases of doubtful value and receive therefor in cash \$68,000 and a half interest in the property which the \$32,000 fund is intended to develop.

Inasmuch as leases upon individual blocks of land are sold, and inasmuch as there is no promise except to spend the \$32,000 in development work, it is plain to be seen that the promoters, after paying some commissions and expenses, will net a handsome profit and retain a half interest in any benefit which shall accrue from the expenditure of the \$32,000 in development. This fund is entirely inadequate to the development of an oil supply in wildcat territory. Usually about one well in 50 in unproven territory is successful, and \$32,000 may drill one well, but surely will not drill 50 wells. No blue-sky law with which the writer is familiar would prevent the carrying out of this transaction, and the writer is unfamiliar with any other proposition more likely to lead to loss by the investor. Pitiless publicity, and that alone, can avail to prevent the natural result of this proposal, which can be summed up in the quotation, "Heads I win; tails you lose."

OIL FRAUDS

Indictment of eleven reputable investment houses and fifty-five individuals in connection with alleged frauds in the sale of oil stocks is a healthy sign of the

cleaning up of this particular type of inflation.

The economic waste which has been going on in the promotion of ill-advised and illegitimate oil enterprises is appalling.

Every legitimate oil industry in the country is lending its vigorous support to this fight against the parasites on the industry as a whole.

The large howl that is going up from supposed oil people against the exposures of illegitimate financing on the ground that enterprise and initiative is thus thwarted does not come from people who have bona fide speculative propositions.

The oil promoter who is being discriminated against, and justly so, is the one who makes money whether a well is drilled on his property or not, and whether or not oil is struck on such well if it ever is drilled. The same principle applies whether the venture is a stock company, shares in a syndicate or segregated portions of the great American desert which are sold as acreage by these philanthropists who want "to give the small man a chance to get rich."

THE LESSON OF COAL PRICES

The average price of the nation's total production of bituminous coal for a five-year period ending in 1915 was \$1.11 per ton at the mine, bringing the bituminous coal industry to the verge of bankruptcy. The coal consumers did not appreciate the fact that this production was made at a continuous average loss to the producer. The "coal barons" were regarded with equal aversion by the public when they were furnishing coal at a loss as they now are with coal at \$7 and better per ton. The coal consumer then regarded as outrageous any proposal looking to the withdrawal of those restrictions of the Sherman law which permitted a fair and reasonable co-operation between coal producers. Now that shortage of production or other causes have brought prices to the other extreme, Government confiscation of coal-mining

property and various other drastic and unconstitutional remedies are demanded. During this cheap-coal period a somewhat careful investigation of the situation convinced the writer that the bituminous coal industry as a whole was giving away its coal at an operating loss of 15 cents per ton. If the coal had a royalty value of 10 cents per ton, this meant a net operating loss to the coal industry of \$60,000,000 annually and the giving away of \$40,000,000 of its invested capital.

The public is now paying back a part of this loss. Some, a very few, coal operators are making unfair profits; others will be able to recoup some of the losses of previous years. The penalties for violations of the law of supply and demand are being brought home to the consuming public. The lesson is wholesome and will serve a useful public purpose. He who buys any product at less than cost does so at the expense of someone else. Usually his saving of today will be paid back with compound interest in his next year's purchase. Upon the other hand, an overprice today leads to competition which will wreck next year's prices. The law of supply and demand is a safe regulator.

THE RIGHT TO STRIKE

Whether Samuel Gompers can successfully simulate the Australian bushwhacker in his skillful dodging of the returning boomerang is a question which only time can answer. When Mr. Gompers says "the workers will not sacrifice human progress for an abstraction which is called public welfare," and again states "the public has no rights which are superior to the toiler's right to live and to defend himself against public oppression," then Mr. Gompers has definitely drawn a line of demarcation between himself and the business interests of the United States.

Samuel Gompers is a confessed leader of men. We think that he himself would admit as much. He stands as the oracle

of unionized labor. He would probably not deny this statement. He is a patriot and holds his country first, and we doubt that Mr. Gompers would deny that the American flag has been very frequently referred to as his favorite emblem. He is well aware of the fact that his personal utterances are credited with having some thought back of them and that they are given great weight in the councils of organized labor. In other words, he is aware of the fact that his influence is a force in whatever direction it may please him to impel that force.

Some time ago the American Mining Congress, which has long been in contact with the problems arising between employer and employe, and which has studied the human, the commercial and legal phases of the so-called labor problem, originated and made publication of the following:

"The right to strike is a qualified right, which ceases and becomes a conspiracy against the Government when it interferes with the production and distribution of the necessities of life."

If Mr. Gompers is right, then the principle expressed in the above paragraph is wrong; if Mr. Gompers is correct, the nation can be thrown into commercial stagnation, chaos, financial ruin and revolution at any time he pleases to call a general strike for the purpose of forcing what he may consider "the recognition of just rights" for some individual, the employment or non-employment of whom may have become a question.

If Mr. Gompers is right, then the existing longshoremen strike in New York is a righteous revolution; and the same was true of the coal strike, of the steel strike, and has been true of every other strike. If Mr. Gompers is correct in his premise, then the hundreds of millions of dollars which have been lost to industry and to labor are just and equitable charges against industry and labor; the fireless and foodless homes resulting from the coal strike, the months of idleness and hence hunger and suffering

which have resulted from other strikes are merely a legitimate incident in a normal though troublesome working out of a social problem. If Mr. Gompers is correct, the \$86,000,000 lost thus far in the longshoremen strike in New York, \$12,255,000 of which is actual loss to the wage-earners involved in the strike, is a perfectly satisfactory condition, and the fact that hundreds of merchants have been unable to secure or deliver goods which have been tied up by the strike, that transportation congestion and destruction of perishable freight which has resulted in losses aggregating to more than \$40,000,000 are right and proper conditions which the American people should accept with pleasure, and, further, the American public should find some anticipatory pleasure in looking forward to more of the same sort of experience.

If Mr. Gompers is correct that his expressions are accepted as being the unqualified expression of right and justice, then the 85 per cent. of the unorganized people of the United States should silently accept the consequences; if accepted in the unqualified sense of the term, Mr. Gompers and his associates should some day cause an overturning of this nation with famine and pestilence and death in order that the sacred right to strike in behalf of the alleged wrongs of a group or even of a single man may be established in the United States is a final principle upon which the people of this nation must conduct their necessary business affairs.

Is it not possible that some day the great mass of splendid men who are toiling daily in the shops and mines, upon the transportation lines and upon the docks which cover the shore lines of the nation shall awaken to the absurdity and impossibility of the stand which Mr. Gompers has taken in this discussion, and is it not probable that when the truth is recognized and good sense prevails "the sacred right to strike," which to Mr. Gompers has become an unqualified dictum, will become a boomerang returning with such rapidity that, skillful as he is

in endeavoring to dodge responsibilities, he will be unable to escape the consequences of the avalanche which by his false position and false logic he has loosed upon his own head?

STANDARDIZATION IN MINING EQUIPMENT

Charles A. Mitke, chairman of the Metal Division of the American Mining Congress Committee on Standardization of Mining Methods, has completed a very interesting series of articles, illustrated by charts and drawings, which were published in the *Engineering and Mining Journal* on various dates. These articles have been compiled in book form and issued by the McGraw-Hill Book Co. of New York. There has been some discussion among mining operators in behalf of the equipment and methods in metalliferous mining. Operators, known for their business sagacity and success as managers, have stated recently that to attempt to standardize methods and equipment in metalliferous mining was to attempt the impossible owing to the widely varying conditions to be found in various States and localities. The situation is expressed tersely and convincingly in the preface of Mr. Mitke's book, in which he says:

"Great economies in any business of production result from careful and thoughtful attention to details, and mining is no exception to this rule. On the contrary, successful mining is one of the greatest embodiments of the principle. The difference between the careful manager and the careless one is apt to be the difference between profit and loss."

And it is upon this business principle that the American Mining Congress is just completing the organization of a concrete National Standardization Committee, one section of which is devoted to the problems connected directly with coal production and another section to the problems connected with metalliferous and petroleum mining. We believe the beneficial effects of this movement will be felt for all time by the entire mining industry.

PROTECTING GOLD RESERVES.

Gold is universally recognized as the basis of credit and the only medium which can be used in the settlement of trade balances between the civilized nations of the world. This being true, an adequate supply of gold is essential to every civilized country. The credits of the world have increased many fold since the beginning of the war. The gold reserves of the world have made no perceptible increase during that period. The United States during this period has gained from imports of gold from foreign nations to a point which has enabled it to maintain its currency at par and to maintain a free gold market. In most other countries currency is at a discount and the free transfer of gold is not permitted. The credit of the United States is thus maintained at par because of our adequate gold reserve. Foreign nations to which we hope to sell our goods and with which we hope to maintain active commercial relations are today handicapped in their purchases in our market by a depreciated currency which can only be accepted in payment for our goods at a heavy discount.

The fact that the currency of many nations is now at a discount or, to state it differently, the fact that gold is at a premium in many nations of the world proves conclusively that those nations have not enough gold. We must expect that the demand of these nations for increasing their gold reserves will necessarily deplete our gold reserves if we are to maintain a free gold market, which is a condition most greatly to be desired. Gold will necessarily flow to that point where it is in greatest demand. This movement of gold is made more likely because of the fact that at this time the United States possesses more than its share of the world's gold supply. It is true that deflation of credit is being sought by the financial interests of the country and it is hoped that deflation may be brought about gradually and without disturbance of the financial situation. Assuming that the crisis shall be passed, it

still becomes necessary for this country to maintain a gold reserve which will fully satisfy the public mind that its obligations may at all times be met in the gold payments required by our bonds and our contracts.

It is generally admitted that a healthy gold-mining industry is essential to meet these conditions. This is a national requirement without reference to its effect upon the gold-mining industry. The nation at large is not interested in the success of the gold miner, but it is interested in the production of gold. The nation at large is not interested directly in the success of the wheat growers of the Northwest, but a discontinuance of wheat cultivation in that section, if the shortage thus created were certain to create a famine, would become a matter of very great importance to the nation and the nation must interest itself in those plans by which the wheat growers of Dakota and Montana shall find it profitable to produce that food which the nation needs. A guaranteed price for wheat was for the purpose of protecting the food supply of the nation.

A gold reserve which protects our credit is necessary to the nation and few will be found willing to say that it is not the nation's business to so stimulate gold production as to protect the nation's gold reserves upon which our credit is based and upon which our ability to carry on international trade is predicated.

THE GOLD STANDARD AND THE McFADDEN BILL

The chief objection which is offered by those who oppose the McFadden bill is based upon their belief that its enactment will endanger the gold standard. These men congratulate the country upon having been able to maintain the gold standard while most other nations, except United States and Japan, have found their currency at a discount; these men glory in the proud pre-eminence of the United States because of its ability to maintain the gold standard during the present trying conditions.

In this THE MINING CONGRESS JOURNAL fully agrees with them, but begs to point out that we have been able to maintain the gold standard by virtue of the fact that we have had sufficient gold with which to maintain it. The currency of most European countries has been at a discount because those nations have not enough gold to justify the confidence that they will be able to pay their obligations in gold. It is pointed out by these misguided friends of the gold standard that Great Britain under more difficult conditions has absolutely refused to lend aid to her South African gold miners and has permitted an open gold market in which the depreciation of her paper money could be measured. But they do not go further and state that the miners in South Africa can be paid with this depreciated currency and therefore in effect the gold miners of South Africa are receiving a bounty measured by the depreciation of British currency. In other words, the gold mine operator in South Africa pays his bills in discounted British exchange for which he trades his gold at a premium.

The gold miners of every gold-producing country of the world, except the United States, have this advantage, and the same advantage will come to the gold miners of the United States whenever our currency is at a discount and not before. These opponents of the McFadden bill insist that gold production will increase when we have returned to normal conditions. But is there an authority anywhere who will express even a faint hope that we will within the next few years return to normal conditions? Even though it could be hoped that business would again return to that normal condition—in other words, that low price level which will permit successful gold mining—this could not occur during the next few years without a commercial panic which would depress the values of the country to the tune of billions of dollars.

The American Bankers' Association has twice gone on record favoring such governmental stimulation of the gold-

mining industry as would maintain a normal output and no one can suspect this association of any desire to tamper with the gold standard. To say that an increased price for such gold as is used in the manufacture of jewelry threatens the integrity of the gold standard is to beg the question. The gold standard in the United States can only be maintained by the possession of such a volume of gold as will insure public confidence in the ability of the nation at all times to meet its every obligation. It is admitted that gold will flow from this country to European countries. In many quarters it is believed desirable and in some quarters it is believed to be a necessity, that much of our gold shall be exported to foreign countries in order to establish such credit as will enable these countries to do business with us upon a gold basis. Certainly we cannot maintain the gold standard by exporting our gold reserves and by crushing our gold industry. The flow of gold to the point of greatest demand is essential to the maintenance of a free gold market. Gold will flow to foreign countries and our own replenishment of that stock cannot proceed from abandoned gold mines, no matter what premium may be offered. The destruction of gold mines now going on at a frightful rate spells calamity to the nation which permits it.

LABOR'S POLITICAL MOVEMENT

Some few months ago the American Federation of Labor announced its determination "to apply every legitimate means and all of the power at its command to accomplish the defeat of labor's enemies who aspire for public office, whether they be candidates for President, for Congress, for State Legislatures, or any other office." The Federation further announced that "its political campaigns must begin in the primaries. The record of every aspirant for public office must be thoroughly analyzed, stated in unmistakable language and given the widest possible publicity. Labor's enemies and friends must be definitely known. To

this end the American Federation of Labor has created the national non-partisan campaign committee and has called upon all affiliated and recognized labor organizations to create district and local committees to co-operate with the national committee and co-ordinate their efforts." The determination to show the force of the labor vote against every candidate who does not accept the judgment and bow to the will of the labor organizations is not new. This in a general way has been practiced for many years, but this comprehensive movement in which all those who refuse to wear the color of labor organizations shall be blacklisted is based upon a belief that organized labor is powerful enough to control the Government. It is announced that the committees "now employed in carrying out this declaration of principles are more numerous and efficient than those employed in behalf of any other political movement." It seems proper that there should be a division of those who believe that the country at large is greater than a minority of its citizenship.

The forced enactment of the Clayton bill, exempting labor from the provisions of the Sherman Law, followed by the Adamson bill, which was passed by Congress and approved by the President in grossly indecent haste because of the threat that unless this bill should become law before midnight a strike would be called which would paralyze the industries of the country and deprive the people of the large cities of the necessities of life, and other brazen demands of organized labor have brought forth a number of statesmen who prefer to suffer defeat at the hands of the people than to stultify their conscience and their sense of public responsibility to meet the demands of this organized minority.

Organized labor, through this new non-partisan political committee, proposes to throw its strength to those candidates who agree to submit to its demands, and thus elect sufficient representatives in Congress to control the Government. It will be well for the American people to at once understand this situation. Are

we ready to turn over the control of our National Government to the American Federation of Labor? Are we ready to accept class leadership in the place of national leadership. THE MINING CONGRESS JOURNAL believes that the perpetuity of representative government is threatened by this movement. Organized labor should have in our governmental system a representation based upon its membership. To permit organized labor to have control means that other citizens shall be deprived of their just share in governmental management. THE MINING CONGRESS JOURNAL does not approve the recent act of the New York Legislature in depriving men elected to the Assembly of their seats on account of their membership in a Socialist organization. It believes Socialists as such are entitled to be represented in proportion to their numbers; it does not believe that this country can maintain its present form of government on any other basis than that its officials shall fairly represent the majority of the citizens in the district from which they are selected. Because of its belief in this principle, it condemns the plan by which labor proposes to elect here a Republican, there a Democrat, and perhaps somewhere else a Socialist, each of whom has obligations to other agencies than the party on whose platform he is elected. An understanding of this situation will demonstrate that the present movement of organized labor is a dangerous blunder, wrong in principle, wrong in purpose, and calculated to so solidify the opposition as to temporarily at least deprive labor of that representation to which it may be entitled. There has been altogether too much surrender to the demand of organized labor. Let the issue be well understood, and let us stand unflinchingly against any movement proposing that any minority, good or bad, shall control the Government. Let our representatives be broad, fair-minded men, with the ability to grasp and the courage to execute whatever shall be for the benefit of the nation as a whole.

FINANCIAL REVIEW OF THE MONTH

The promised advancing market following the Republican nomination did not materialize. The month of June as a whole has established one record after another of dullness. It has had the dull-est opening hours, the dullest half-day sessions, the dullest full-day sessions, the dullest week, and finished by being the dullest month for more than a year. The statistical average of twenty representative industrial stocks has had less than a three-point range of fluctuation during the entire month. Following a heavy campaign of advice to buy and a slight advancing market in the rails during the month of April, the statistical average for twenty rail stocks has dropped to new lows and individual stocks have made new extreme lows following the cut in the dividends on Chicago and Northwestern early in June. All of these indications are discouraging to the speculative trader. They are not particularly discouraging to anyone else.

This has been a month which has called out all of the set phrases in accounting for market fluctuations. Prices would decline, to be followed by the statement that "these slight declines were merely due to short selling and had no significance." Prices would rise with the same number of points with the receipt of news which could not remotely affect the market for a year to come. But these moments have had vital significance. They have signified that the advance of rediscount rates is having its desired effect. For the dull stock market with its small speculative range is exactly the effect desired by the Federal Reserve Bank when it increased its rediscount rates in May, and again in June. For this was done for the purpose of curbing speculative loans and stopping inflation of values, not only in securities but also in commodities. The public has kept out of the market, which at this critical period is a good thing, both for the market and for the public.

There has been a uniformity in these narrow fluctuations which has carried

prices to a high peak on Friday or Saturday of each week and to a low point on the Monday or Wednesday following, which would indicate that certain astute traders had adopted it as a reasonably safe plan to sell the market at the end of the week and buy it in again earlier in the week following.

The present slow movement of freight is due more to inadequate equipment than to freight congestion. To supply cars necessary for the entire crop movement this year will be an utter impossibility. A great deal of last year's grain crop of the West is still unmoved because of inadequate equipment.

In the bank statement for the week ending June 25 New York Federal Reserve Banks' reserve ratio dropped below 40 per cent. to 30.2. This was due entirely to a decrease of gold reserve and points out anew the necessity for stabilizing the gold production on a basis comparable to other industries.

Aside from the stabilizing effect of our Federal Reserve Bank system, there is one further restraining hand which will prevent any recurrence of panic conditions which have prevailed at the end of inflation periods heretofore; that is, the widespread circulation of financial statistics and information based on scientific research from responsible statistical organizations. This comparatively recent statistical service by graphs had no such wide publicity at any former time of similar stress.

Both the speculating and investing public are being and have been forewarned of the exact possible outcome of conditions of inflation to such an extent as to act as a preventive. When more than half of the public trading in the market is being warned that under present conditions stocks cannot have a sustained rise, their influence, together with that of the professional traders who are always preponderantly on the correct side of the market, will have more than a counterbalancing effect as opposed to that part of the public which never speculates unless it buys.

This year has seen the largest volume

of proposed new financing of enterprise that was ever proposed for public investment. Many companies which had made money found themselves short of actual capital for the reason that while their tonnage output had doubled, the capital necessary to handle it had under our present inflation quadrupled. They, therefore, declared cash or stock dividends, usually stock, and at the height of the optimism produced by this additional dividend floated a new issue of capital stock or of preferred stock or bonds. This meant the ultimate investment of twice the usual amount of money for carrying a fixed volume of business.

The issuance of stock dividends themselves was a species of inflation, in that many stock dividends were passed on inventories at inflation valuations and increased the fixed liabilities against the companies' assets.

Judge Gary more than two months ago in his address to the stockholders of the Steel Corporation pointed out the dangers of such financing and the advisability of the more conservative plan, as followed by the Steel Corporation. This company has by maintaining its usual dividends and declaring no extras kept its liquid capital large, and avoided the necessity of new financing at a time when money is costly. The wisdom of his course has been seen by a rapidly increasing number of corporations, and many large financing projects which would not materially have increased the volume of the business of the companies for whom they were to be sold have been withdrawn from the market within the last month.

The issuance of stock dividends which followed the decision of the Supreme Court that such dividends were not taxable as income has also happily been cut down. The country is one long stride further toward its ultimate normal position. The month of June with its heavy withdrawals necessary for July 1st dividends and interest might have been critical for the country as a whole. Instead it was merely stupid for the speculators.

FEDERAL TRADE COMMISSION vs. MINERALS SEPARATION, LTD.

American mining companies with an aggregate production of approximately 60,000,000 tons of ore per annum will be affected by the outcome of the prosecution by the Federal Trade Commission of Minerals Separation, Ltd., Beer, Sondheimer & Company and others, which opened in New York on April 7, 1920.

The magnitude of the proceeding is further emphasized by the array of counsel representing the various parties in the hearings before Hon. George McCorkle, Examiner. The prosecution of the Federal Trade Commission is under the supervision of Hon. Claude R. Porter, chief counsel, and Hon. Gaylord R. Hawkins, trial counsel. The Minerals Separation Companies are represented by ex-Supreme Court Justice Charles E. Hughes, Messrs. Alfred A. Cook, Harold Nathan and Henry D. Williams; Beer, Sondheimer & Company, Inc., is defended by former Commissioner of Corporations Joseph E. Davies, Messrs. Isadore J. Kresel and Raymond W. Beebe, and ex-Secretary of War Lindley M. Garrison is counsel for the respondents, Elkan and Frohmknecht. The American Mining Congress, pursuant to the resolution adopted at its twenty-second Annual Convention, and its counsel, Hon. George L. Nye of Denver and Mr. Gilbert H. Montague of New York, have for several months been collecting evidence and placing it at the disposal of the commission. The record of testimony so far covers over a thousand pages, and the exhibits introduced by the Government cover twice that number. Further hearings will be held in San Francisco in July and at such other times and places as the Federal Trade Commission may deem advisable.

The Government called as its first witness John Ballot, who was chairman of all the British Minerals Separation companies and is now president of Minerals Separation North American Corporation; Seth Gregory, until 1916 resident managing director of the British companies and now vice-president of Minerals Separation North American Corporation; Chester B. Allen, secretary of the North American Corporation, and Otto Frohmknecht vice-president of Beer, Sondheimer & Co., Inc.

Mr. Ballot testified that he is a British subject, born in South Africa, and residing in the United States for several years past.

German Interests in Subsidiaries.

The first of the British companies was Minerals Separation, Ltd., organized in 1903 with a capital of £15,000, to acquire and exploit certain patents for the concentration of ores. These patents did not include the flotation process, however, which, according to Mr. Ballot, was not discovered until 1905, in the company's laboratories. Five years later it was decided to promote the flotation process in America, and accordingly Minerals Separation American Syndicate, Ltd., was organized in London, acquiring the American rights. The German firm of Beer, Sondheimer & Co. of Frankfort, who were large stockholders in this syndicate, were made American agents in 1910, and Dr. Sondheimer was one of its directors.

A few years later, the £52,500 capital of the American Syndicate proving inadequate, Min-

erals Separation American Syndicate (1913), Ltd., was formed with a capital of a quarter million pounds, and acquired the entire business of the 1910 syndicate. Beer, Sondheimer & Co. of Frankfort were large stockholders in this syndicate also, together with Minerals Separation, Ltd., and Lazard Brothers of London.

Beer, Sondheimer & Co. of Frankfort continued as agents of the (1913) syndicate in America, their New York office being in charge of Benno Elkan and Otto Frohmknecht, both German subjects at that time.

War-Time Complications.

When Great Britain declared war on Germany in 1914, Minerals Separation American Syndicate (1913), Ltd., was in the embarrassing position of a British company, a large block of whose stock was owned by a German firm, which was also its American agent. In this predicament the directors sought the advice of counsel and conferred with the British authorities, with the result that an agency

agreement was made with "Elkan and Frohnknecht, doing business as Beer, Sondheimer & Co., American branch," in January, 1915. Both Elkan and Frohnknecht had applied for American citizenship upon the outbreak of the war.

This arrangement continued until August, 1916, when it was decided to simplify American operations by the organization of an American corporation to conduct the business here, Elkan and Frohnknecht becoming "general" instead of "sole" agents, and receiving 17,500 shares of (1913) syndicate stock in commutation of past and future commissions.

Minerals Separation North American Corporation was formed December 7, 1916, under the laws of Maryland, taking over the rights of the (1913) syndicate and the Minerals Separation business formerly conducted by Beer, Sondheimer & Co. Of the voting trust certificates issued, 65,230 went to the Public Trustee of Great Britain, who had seized the interest of Beer, Sondheimer & Co. in the (1913) syndicate, and 35,000 were deposited with the Guaranty Trust Co. of New York in trust for Elkan and Frohnknecht. After the entry of the United States into the war, however, the *Alien Property Custodian* inquired into the ownership of these hundred thousand certificates and confiscated them as German property.

The Four Royalty Rates.

After the schedule of royalty rates of Minerals Separation North American Corporation had been introduced in evidence, showing four methods—percentage, unitage, poundage and flat rate—Mr. Ballot said that intending licensees "were given the option to select whichever form of royalty was most in their favor," and this freedom allowed the licensee in his choice of royalty rates was also emphasized by Dr. Gregory. But when Government counsel asked "Do I understand you to say that it (the royalty schedule) is so framed that any one of the four alternatives that they may elect will, in the long run, eventually pay you about the same amount?" Dr. Gregory answered, "About the same amount, dependent on the amount they benefit. If we save a man a dollar * * * we ought to get something in the neighborhood of, say, ten cents, to satisfy our end, anyhow; and we framed our royalty to suit that."

Rebates and Special Agreements.

While Minerals Separation North American Corporation has now a standard form of license agreement, it was admitted that not all of the licensees operate under it. The corporation stated in its answer to the complainant "on only two occasions were licenses granted on special terms to meet special and unusual conditions," but the questioning by counsel for the commission brought out the fact that there are fifteen large companies op-

erating under special terms. One of these companies holds a standard form of license agreement, but "we merely agreed to leave the license as it was, the license taken up, at a certain rate of royalty. As the royalty was paid and payable, we refunded half of it to the owner. We agreed to meet the owners by rebating half the royalty rate." When asked whether this rebate agreement was written or oral, Mr. Ballot answered, "Probably oral; at most, the exchange of letters, I should say."

The "Absolution" of Infringers.

Mr. Ballot said that their information was that there were 560 mines, operators or individuals in the United States using their process, of which only about 120 were licensees. The tonnage treated by licensees he estimated at 28,000,000 per annum, and that treated by infringers at 28,000,000 to 30,000,000 per annum.

Counsel for Beer, Sondheimer & Co., Inc., referred to the ceremony of settlement by an infringer as "absolution," but counsel for Minerals Separation North American Corporation preferred to speak of "atoning for past misdeeds" and of being "shriven for past misdeeds." The general policy is to grant "absolution" upon payment by the infringer of double the usual royalties during the period of the infringement.

The "Irrelevancy" of Minerals Separation Profits.

When the commission's counsel asked Mr. Ballot the amount of the North American Corporation's gross income, he was met with the vigorous objections of the witness' counsel, who is also a director of the corporation. "Any investigation into the money that we make, I think, is entirely without the scope of the investigation, and entirely without the power and authority, and entirely without the jurisdiction of the commission, and entirely irrelevant and immaterial to this examination." Government counsel pressed the question, and the examiner directed the witness to answer, but he refused to do so on advice of counsel. Under similar circumstances Mr. Ballot refused to disclose the amount of dividends paid in 1918, the amount of its profits for that year, its surplus and undivided profits and the book value of its stock.

"Insured Against a Lawsuit."

Dr. Seth Gregory, a British subject born in Persia and residing in the United States, followed Mr. Ballot as a witness. He, too, has been associated in the Minerals Separation companies since the beginning, and is vice-president of the Minerals Separation North American Corporation.

On the subject of their patents Dr. Gregory had this to say: "We were not prepared to go this far and say that we guaranteed the validity of our patents, because there is no such thing as valid patents." The position of a licensee and an alleged infringer was summed up by his counsel in these words: "So that, assuming that the patent is declared invalid, the licensee pays royalty, and the other man does not." Again, Dr. Gregory said he has told licensees, "If we have a patent, then they (the infringers) will have to pay for it. You have been wise, and you have insured yourself against trouble." "So that," asked the prosecutor, "—, as you said a moment ago, is insured?" "Yes," was the answer. "He is insured against lawsuit?" "Against a lawsuit," Dr. Gregory responded. All of the foregoing came after the introduction in evidence of a letter written by Minerals Separation's patent attorney to alleged infringers in January, 1917, threatening legal proceedings in default of settlement by such alleged infringers.

"Absolutely Robbery—Trespass."

"I will tell you something that I was going to tell you," said Dr. Gregory. "We have been accused of espionage. I just want to give you exactly the position that we took up on that. We had no means of discovering whether Mr. Hyde was using our process or whether he was not using it. * * * So we were compelled to trespass—absolute robbery. Our chief engineer went right into the place by force, and he took some of the stuff and put it into a bottle, and they nearly knocked his head off. They went for him, you know, and were going to arrest him, and I don't know what not, and in the meantime he had posted the bottle, under registered cover, and so on, to our patent lawyers. You have to set a thief to catch a thief, don't you know. That act of trespass did not in any way militate against us. We have had occasion, and unless we are ordered to the contrary we may have occasion to employ men who will use their ingenuity and skill to get into places and find out what people are doing. We have to use all the modern methods that everybody uses as detectives."

Here Mr. Ballot was recalled to give further details on the subject. "Herbert Salinger," he said, "was known to me as a metallurgist or mining engineer who in former years represented or acted as an agent for Beer, Sondheimer & Co. It would be very desirable to have direct testimony of infringement as to what was going on in the mills of Butte and Superior. Mr. Salinger was asked whether, with his experience, he could engage men or a man of experience and get the necessary information. He said he could, or thought he could, and that man was engaged at a regular

salary and proceeded to Butte, and there entered the service of the Butte & Superior Company, and got the information, which was sent to the New York office." Reports of these "observers," and correspondence with Mr. Salinger, who referred to his own "un-ethical means," were introduced in evidence.* Later Mr. Frohnknecht testified that Mr. Salinger represented both Beer, Sondheimer & Co. and Beer, Sondheimer & Co., Inc.

"To Prevent Crooks From Overreaching."

"We had," said Dr. Gregory, "two difficult propositions to explain to a licensee. The first was our schedule of royalties, and the next was our license contract. Our contract is simple. It is designed to prevent, if I may use the word, crooks from overreaching themselves, but with the honest man our contract had absolutely no fears. We had certain things that we had to put in it for our protection. The first thing I had to meet was this: 'Here is a license agreement here, but there is no termination in this license agreement. It might continue until doomsday.'" This point Dr. Gregory explained by saying that "this was merely an option, and if you used the process you paid, and if you did not use the process you were as good as not having a contract at all; there was no obligation of any kind." So that the agreement terminates when they cease to use the process, and "commences again when they start to use it."

Control All Improvements.

As to the use of Minerals Separation apparatus, Dr. Gregory said: "As a protection to ourselves we put in this clause, that when you are going to use our process, you must use our apparatus." Clause 3 of the agreement was read: "The licensees shall, during the continuance of this license, promptly communicate and explain to the licensors every invention or discovery made or used by them which may be an improvement, modification or addition to any of the inventions specified in the letters-patent within the license." Such inventions of their own, licensees may "use free of charge," but *"the licensors shall be entitled to the full benefit of, and if obtainable, to obtain letters patent for any such improvement."* The licensees further are bound to "use their good offices to induce their employees to assign to the licensor" any such invention.

Claim to Be Benefactors.

The result of the system, according to the witness, "is no monopoly for anybody"; for if the employe of a licensee in America, England, Australia or Russia makes an invention, all "our licensees get the benefit of it, and do not

pay us anything for it. In fact, we wanted to make ourselves a sort of exchange whereby all our clients would get the benefit of the inventions mutually without any extra expense."

"Innocuous" Publications Permitted.

The attitude of Minerals Separation on the publication of articles on flotation was discussed, and Dr. Gregory remarked that "we consider it wise, especially when our patent position is in such a dangerous position, not to allow half-cooked and half-baked statements to come out." And further, that "I would say that it was an absolute dereliction of duty on my part if I allowed an employee of ours to go and ruin the prospect of a company just because he wanted to air his views." So, if an employee desires to publish an article, it must be submitted to the officers. "We have had requests, which we have more often refused," but "where we have been able to satisfy ourselves that it would be innocuous, we have allowed it."

As to articles by their licensees, Minerals Separation North American Corporation also "reserve the right to edit anything they may wish to publish on the subject of flotation."

Benno Elkan and Otto Frohknrecht.

Otto Frohknrecht was the first witness not an officer of Minerals Separation to testify. He said that he and Benno Elkan were natives of Frankfurt, Germany, where they were both employed by Beer, Sondheimer & Co. until 1900. In that year they were sent to New York to conduct the New York branch of Beer, Sondheimer & Co., and they have resided in the United States since that time. Mr. Frohknrecht remained a German subject until his country went to war in August, 1914, at which time he took out his first papers in the United States.

Mr. Frohknrecht said that Beer, Sondheimer & Co. became American agents for Minerals Separation American Syndicate, Ltd., in 1911, and for Minerals Separation American Syndicate (1913), Ltd., in 1913, and, while he and Mr. Elkan had much to do in the negotiations which resulted in these contracts, the contracts themselves were nevertheless executed by their employers, Beer, Sondheimer & Co., in Frankfurt. As counsel for Mr. Frohknrecht put it, "they were simply the agents of the German principals here; it was the business of the Germans, without any question."

Alien Property Custodian Seized Stock.

Mr. Frohknrecht recited the various steps in the creation of the Minerals Separation agency, the receipt of 17,500 shares of (1913) Syndicate stock by him and Mr. Elkan, and the allotment to each of them of 17,500 voting trust certificates of Minerals Separation North American Corporation, which were later seized by the Alien Property Custodian.

Upon the formation of Beer, Sondheimer & Co., Inc., in 1915, all the business of Beer, Sondheimer & Co. was taken over by that corporation, with the exception of the Minerals Separation business. Elkan and Frohknrecht became and are now "general agents" of Minerals Separation North American Corporation, and they also became at that time and are now president and vice-president, respectively, of Beer, Sondheimer & Co., Inc. Minerals Separation North American Corporation and Beer, Sondheimer & Co., Inc., have adjoining offices at 61 Broadway, New York, and part of the former's space is rented from Beer, Sondheimer & Co., Inc. The president and vice-president of the latter each owned a large block of Minerals Separation North American Corporation voting trust certificates, which was seized by the Alien Property Custodian as German-owned. Despite these various arrangements, the witnesses disclaimed any present working agreement of their corporation with Beer, Sondheimer & Co., Inc.

On April 16 the hearings were adjourned, to afford the counsel of the Federal Trade Commission opportunity to examine the evidence and testimony, as well as the respondent's records.

"Among the correspondence introduced in evidence is the following letter, with notations by the Chief Engineer of Minerals Separation North American Corporation:

HERBERT SALINGER,
Special Representative
BEER, SONDSHEIMER & CO., INC.,
New York City.
305-306 Newhouse Building,
Salt Lake City.

January 10, 1918.

Mr. John Ballot,
Care Mr. E. H. Nutter,
San Francisco, Cal.:

Dear Mr. Ballot—I just want to inform you that I have secured by devious and most unethical means a sample of X Cake, which I am sending by registered mail to Mr. Higgins today.

I was not able to find out how the material was used, but am trying to get this information also. The sample obtained weighs about one pound, and I am trying to get some more. It smells as though it contained a good deal of camphor.

Very truly yours,
(Signed) HERBERT SALINGER.

January 12, 1918.

Dear Mr. Ballot—Salinger wired me I could open this letter, so I did. As camphor oil is a splendid flotation agent, it occurs to me that X Cake may be a residue or other by-product from the synthetic manufacture of camphor.

E. H. NUTTER.

* * *

HEARINGS RESUMED

The calling of a former Federal Trade Commission examiner to the witness stand to inquire into his present relations with the Minerals Separation interests, his admission of visits, since the commencement of the hearings, to the offices of both Minerals Separation North American Corporation and A. A. Cook, its counsel, and statements by the Government prosecutor contradicting the witness, featured the resumed hearings of this case in New York on May 3.

Visits Unexplained.

After the introduction of numerous exhibits in evidence on May 3 and 4, Gaylord R. Hawkins, the Government prosecutor, upon completing a further examination of the president of Minerals Separation North American Corporation, called to the witness stand Henry J. Foster, who was one of the Commission's original investigators of the Minerals Separation companies. Foster left the Commission April 14, but has been a regular attendant at the hearings since then, "at nobody's request," he said, but "merely as a visitor." The prosecutor's questions brought out admissions of visits by the witness to the Minerals Separation North American Corporation offices, as well as to the office of its attorney, but these visits "were not in connection with this case," according to the witness.

Foster denied that he was now employed by the North American Corporation or its counsel, but the prosecutor said:

"When called upon by the attorney in charge of the New York office (of Federal Trade Commission) and by other attorneys in the office for an explanation as to what he (Foster) was doing in this case, he (Foster) made the statement before several of them that he had been employed by you (Cook) to assist in the defense of the case. He made that statement on more than one occasion."

A \$14,000,000 Income?

Mr. Hawkins asked the witness if he had not said that the income of the North American Corporation for the last year had been \$14,000,000. This question brought objection from counsel of the North American Corporation, as had all previous inquiries into the financial affairs of his clients: "I object to that as incompetent, irrelevant and immaterial hearsay of the most objectionable kind or character." The question was allowed, and Foster denied making such a statement. "He said it, all right," commented the prosecutor.

Upon the completion of the Government's examination Mr. Cook was given the usual opportunity to cross-examine, but he had nothing to ask the witness, and the purpose of Foster's visits was left unexplained.

The Commission's Private Files.

"If there is any doubt about it in your mind, I suggest that the Examiner and Mr. Hawkins examine the records at the office of the Federal Trade Commission to ascertain" certain matters connected with the case. This suggestion of Mr. Cook's, referring as it did to the confidential records of the Commission, caused the prosecutor to call him as a witness for an explanation.

"What information have you, Mr. Cook, regarding the records of the Federal Trade Commission?" asked the prosecutor. "I have never seen them," replied Cook. This answer caused Mr. Hawkins to probe further. "Have you received any information, directly or indirectly, from anyone as regards what these records and files of the Federal Trade Commission contain with respect to this case?" To this Cook answered, "I have received no information from anyone connected with the Federal Trade Commission as to what the records contain. I have no recollection of having been told by anybody what the records contain." Witness explained that his remark to the examiner had been based on inferences he had drawn from circumstances surrounding the case.

Mr. Cook, while he did not reveal the subject-matter of Foster's visits to his and to North American Corporation's offices, flatly denied the employment of Foster by him or his client.

Those Royalty Rates Again.

A letter written by John Ballot, president of North American Corporation to his counsel in 1918 was introduced in evidence by the respondents, and it refers, among other things, to the "enormous benefits derived from the unlicensed use of our process," and to "the enormous profits derived by them from the illegal use of our patents." Such profits, of course, being made by alleged infringers, were not reduced by the payment of the royalties exacted by North American Corporation. Some correspondence introduced by the Government is enlightening on this subject.

"We should like to make arrangements with your company to use the Minerals Separation Co.'s process if it can be done on the basis of the flotation concentrates produced."

was read from a letter from a prospective licensee. This was answered by North American Corporation, quoting its royalty rates. The prospective licensee was prompt in his reply, "A license to use your process under the terms stated would be of no value to us. If a more favorable basis for royalties cannot be had, we shall be obliged to discontinue consideration of your process." And later, "*A royalty on the mill heads would amount to more than the net value of the concentrates produced. If you could give us a reasonable royalty based upon the flotation concentrates produced, we would be willing to contract with you.*" The last word from this prospective licensee is brief but pointed: "The experiments were discontinued about the first of the year, and since the apparatus has been dismantled and removed from the building."

Another company which has been experimenting with the process, assisted by a North American Corporation engineer, wrote as follows:

"The situation is that, as it is at present operated, the plant is not successful in any large way, and if we were to continue with our present indifferent results and were to pay your royalty in addition, we might almost as well suspend operation."

Double Royalties on Experiments.

Discussing the subject of the demand of North American for double royalties on material treated during the experimental period, as "the unlicensed use of flotation," the company wrote:

"Your proposal acceptable, except for the demand for past royalty. This work has been so unsuccessful to date that I wish you would waive this claim or make it subject to the complete success of the experimental work now proposed."

The chief engineer then took the matter up with the president, and advised the company of a lump sum that would be acceptable in full settlement. This "very large figure for settlement appalled" the company (which had already been licensed), and the company's representative wrote:

"Had I known or realized that that accrued penalty was to hang over the head of the company, I should have dropped the matter where it was rather than go into the experimental work proposed with the outcome in doubt; and in that telegram I said that any such back royalties would be contingent upon highly favorable results. The Malmros work and the expenses incident thereto ran to a large figure, and the results were not gratifying, and certainly in no degree commensurate with what I hoped we might get by rea-

son of your laboratory tests, which indicated the possibility of trace tailings. * * * We then tried faithfully, under Mr. Malmros (the Minerals Separation engineer) to make a success. Our outlay direct for his per diem and expense was \$650; the collateral expense was at least \$200 in addition. Had you refused point blank to waive past royalties, almost certainly we would have saved these charges and dropped the work. As it was, we went ahead and paid for work the successful outcome of which was a matter of common interest.

"*A point that hurts me is that you reported tailings assays of trace and 20 cents (notation above), and this possibly led me on. Yet when I put up these figures to Mr. Malmros as a goal, he discounted them as mere laboratory results not to be attained in practice. I had relied on them.*"

Admit Royalties Too High.

In a letter to Minerals Separation North American Corporation, E. H. Nutter, the company's chief engineer, discussed the subject of royalty rates with refreshing frankness. "I know your views on the royalty question," he said, "but here is a case where, if we charge them an all-round royalty on all of their operations, using flotation of, say, 10 cents a ton or a royalty that would amount to this charge, it is, I think, all the traffic should bear. I am becoming more and more convinced that our royalties are too high, and am getting together data which I think will show that we are losing out financially through charging a royalty which is considered too high." And further, "The only argument that I can see," continued Mr. Nutter, "is that by maintaining our present position we can hold the Butte & Superior Company up for more than we otherwise might, but this, again, is not certain in my mind, as I understand the law is very definite that all of the profits of infringement belong to the patent owner, and that our scale of royalties to infringers will not be considered."

"The Royalty Would Take All."

In the same letter Mr. Nutter discussed the experiments of United States Smelting, Refining & Mining Exploration Co. with flotation at various mines. He reported that at Pachuca "they figured that they could make about \$14,000 a month operating profit from the use of flotation, not counting royalty, but out of this they would have to amortize their smelting plant and the changing over to flotation. The royalty would take all of this, and they would not make any profit at all from the change;

and he stated that they had stopped all investigations of flotation on this ore after receiving our royalty schedule." At Needles only one-sixteenth of their products was obtained by flotation, and "at normal metal prices their profit would not amount to the royalty we are asking of them and they would scrap their whole plant there."

"Avaricious and Unscrupulous" American Mining Interests.

Just why the North American Corporation was formed and what interests controlled it were disclosed in correspondence introduced by the Government between (1913) Ltd. and British Treasury officials in 1916. One paragraph reads as follows:

"The profit-earning capacity of the company is very great, and every effort should be made to develop it to its full extent and to preserve the process for its British shareholders. The company's position at present is that it has to defend its extremely valuable property against the assaults of the larger portion of the powerful American mining interests, whose avarice will not permit any scruples to stand in their way if by any chance they can crush the company, in spite of the enormous profits they are making or will continue to make even after paying the moderate royalty demanded. * * * By transferring the company to America on the lines proposed, the shares would still continue to belong to and be held by exactly the same shareholders now on the British register, and in exactly the same proportion, except that 7 per cent. of the whole share capital will be contributed by shareholders and used to cancel or commute the payment to the agents of 10 per cent. of the gross income, as fully explained above and in the agreement of August 4, 1916."

That the process has been "preserved to its British shareholders" was confirmed by an inspection of the shareholders' list of North American introduced in evidence. Except for the several alien stockholders residing in the United States and stock held by the Alien Property Custodian, there were but five American addresses out of some two hundred, all the rest being foreign, and these own but 10,500 of the 500,000 shares.

Minerals Separation's View of American Justice.

"In one notable instance, at the hearing by the San Francisco Appellate Court of an appeal against the company, the opposing counsel actually told the Court that the company was a foreign corporation, and alleged that it was trying to exact a tribute from the United States mining indus-

try 'equal to the national debt.' The Court, no doubt influenced by this consideration, decided against the British company, but that decision has since been called up for revision by the Supreme Court in Washington, hence the need for expediting the transfer to American registration to assist as far as possible in counteracting any prejudices which may exist or be insinuated against the British company at the final hearing of this and two other important actions pending at present before the Federal Courts of the United States." * * * *"If the transfer of the English company to America is not soon allowed, the existing hostility in America against the company will not only increase, but, as has already occurred, may again be used to prejudice the company's cause in the three actions at present before the Federal Courts of the United States."*

The hearings in New York adjourned on May 5. They will be resumed in San Francisco on July 6.

Much Placer Gold Unreclaimed

The total placer gold produced in Alaska has a value of \$218,000,000. Much of this has been won from the rich bonanza deposits whose exploitation requires little capital. It is not impossible that other rich placers will be found, but the only certain reserves of placer gold are in the extensive deposits of auriferous gravels containing comparatively small gold values. These must be exploited by mechanical methods involving large investments. Including in the reserves only the auriferous gravels, of which some test has been made and which are believed to carry enough gold to warrant exploitation under pre-war economic conditions, the Geological Survey estimates that the Alaska placer gold reserves have a value of between \$240,000,000 and \$360,000,000.

W. P. Pressinger Dies

WHITFIELD P. PRESSINGER, New York, vice-president Chicago Pneumatic Tool Co., died June 10 as a result of complications following an operation. Mr. Pressinger was actively engaged in the pneumatic tool and allied machinery industry for many years. He was general manager of the Clayton Air Compressor Co. for seven years and became widely known through numerous activities in the American Society of Mechanical Engineers and the Compressed Air Society. He was born in New York City in 1871. In addition to the foregoing societies, he was a member of the Sons of the Revolution, Seventh New York Regiment Veterans, F. and A. M., and the following clubs of New York City: Engineers, Lawyers, New York Athletic, New York Railroad, Columbia Yacht and the Machinery Club.

STANDARDIZATION OF MINING EQUIPMENT

By WARREN R. ROBERTS, President, Roberts & Schaffer Company, Chicago; Chairman of General Committee on Standardization of Mining Equipment, American Mining Congress, Washington, D. C.

The subject of "Standardization" of equipment and machinery, whether for use by the coal mining industry, for metal mining, or for any other industry is one which must be given careful consideration before its advantages will appeal to those who are to use this equipment and machinery or to those who are to design and manufacture it.

This statement is based on a very considerable experience by the writer for the past two years, during which time he has had occasion to present the subject to various groups of men representing the different branches of the industry to which the equipment or machinery was to be applied.

When the desirability of standardization of any equipment is first mentioned to one who has not yet thought of the matter, it is perfectly natural that certain objections to any attempt to standardize the equipment in which he is interested, should first present themselves and only by a careful discussion of the subject and the pointing out of the definite benefits to be derived from standardization, will he be convinced that the advantages to be gained by standardization of any line of equipment very greatly outweighs any objections to such standardization.

This statement is also on the experience of the writer, and may be accepted by the gentlemen of this convention, pending the arguments in favor of the standardization, which will be presented later. It will be best, however, to first define both the scope and the limitations which any program on standardization should embrace.

It has been found advisable in planning for the standardization of equipment or machinery for any particular industry to establish certain general lines of procedure and to begin with the adoption of certain principles which are recognized by both the profession and the industry as good, standard practice. Then, having established these fundamental principles and standard practices, we can gradually branch out and bring under standardization certain equipment on which there is the most general, favorable opinion towards standardization.

To illustrate what we have in mind, it is conceded by all concerned that in designing a tippie for a mining plant, for instance, there are certain track clearances, certain overhead clearances, certain clearances above the point of dump for over-wind, etc., which are recognized as good practice and for the safety of operation. However, we have all observed many plants in which these well-recognized standards are not followed, and due to the violation of which many accidents occur. It would, therefore, seem to us easy to reach an agreement as to the desirability of the adoption of certain standards along these par-

ticular lines, such standards, of course, to follow established good practice.

We believe there are few connected with this industry who would not agree to the desirability of some reasonable standardization of mine track gauges. At present we have gauges varying by inches from 18-inch up to 48 inches.

Without doubt some standardization of mine track gauges would be of great benefit both to the operator and the manufacturer, as affecting mine cars, mine locomotives and coal-cutting machines.

To one who has given much thought to this subject, such illustrations could be multiplied indefinitely. These few plainly show the scope which our program of standardization may assume.

Now, to define the limitations: It is important both on behalf of the operator and the manufacturer that attempts should not be made to standardize any machinery or equipment just for the sake of standardization which will in any way add expense either to the operation or the manufacture of such machinery, but only when standardization will simplify operation and cheapen production.

Having in mind these well-established lines of standardization, let us now point out very briefly some of the benefits to accrue to the various interested parties:

BENEFITS TO OPERATOR.

Any program of standardization must have in mind first the benefits to accrue to those operating the equipment or machinery to be standardized. Some of these benefits which occur to the writer are as follows:

The adoption of standards of clearance in the tippie structure as mentioned above would not only facilitate operation, but lessen expensive accidents and thereby prevent delays to operation and expensive repairs.

Standardization of mine track gauges after once adopted would not only facilitate the use of cars from one mine to another (a very material advantage to an operator owning several mines), but would reduce the cost of his mine cars, his haulage motors and his coal-cutting machines.

The standardization of certain other lines of machinery used by all operators would in time reduce the cost to the purchaser for such standardized machinery.

Standardization of any line of machinery very greatly reduces the cost of the repair parts which an operator must carry in stock to insure the continuous operation of his mine.

Standardization of the equipment and machinery for a mine not only reduces its cost, but lessens the time required to secure such standardized equipment and machinery as

against the time required to buy unstandardized machinery.

BENEFITS TO MANUFACTURER.

The next most interested party in any scheme of standardization is the manufacturer of the equipment or machinery to be standardized, and before such manufacturer can be persuaded to join a standardization movement he must be shown the benefits that will accrue to him. These may be enumerated briefly as follows:

All that has been said regarding the benefits to the operator by the standardization of mine-track gauges would apply equally to the manufacturer of mine cars, mine locomotives and coal-cutting machines, or any other mine equipment which must run on a mine track.

It is perfectly apparent that a standardization of mine-track gauges which would enable manufacturers of all such equipment to adopt standards would very greatly reduce the cost to the manufacturer in maintaining plans, patterns and shop room for handling through his factory machines for a few standard gauges, as compared with a multitude of machines of various gauges.

The very large saving in the cost of manufacture of machinery to a few standards as against miscellaneous sizes cannot be calculated. But any manufacturer will admit that the saving is very material and very beneficial from his viewpoint.

The advantage of standards to the operator in reducing the number of repair parts which must be carried to insure the continuous operation of his mines applies equally to the manufacturer, for the reason that to enable him to furnish repair parts for a multitude of sizes of any lines of machinery necessitates his having patterns for all such sizes, and manufacturing and shipping of a few of each of these various sizes instead of a greater number of the few standard sizes.

These are only a few of the advantages to the manufacturer which have occurred to me at this moment, but many others could be mentioned.

ENGINEER AND BUILDER.

It may appear at first thought that any program of standardization of mine equipment and machinery would be a disadvantage rather than an advantage to the engineering profession interested in the designing and building of mining plants. However, such conclusion is incorrect. Any engineering profession worthy to endure must be based on advantageous service rendered to those who pay for such service. Only by making such service of value will it continue to be employed. It is, therefore, to the interest of engineers and builders of mining plants to promote standardization as outlined above, and thereby indicate to operators not only their desire, but their ability to promote his interests by every opportunity that presents itself.

CO-OPERATIVE PROGRAM.

The above discussion makes it apparent that if any movement looking to the standardization of mining equipment is to be successful, it must have the hearty support of men representing the operating end of the mining industry, of men representing manufacturers of equipment and machinery used by the industry and of engineers and builders interested in this line of work.

There are also several other outside interests which must be consulted and whose co-operation should be secured in connection with the adoption of standards that affect such interests. This applies to the interest railroads may have in tippie clearances or other features of a mining plant as affecting the operation of their roads.

Certain States also have laws regulating tippie clearances, some of which laws are unnecessarily severe and should be revised to meet good standard practice. Other States which have no such laws should be encouraged to pass laws establishing the standard practice for such clearances.

MANY SUBJECTS COVERED BY BUREAU OF MINES REPORTS

Reports of investigations of the Bureau of Mines for May, 1920, cover the following:

I. Evaporation of Crude Oil in the Mid-Continent Field, J. H. Wiggins.

II. Notes on Spontaneous Explosions of Nitro-Glycerin in Oil and Gas Wells, Stephens, Palo Pinto and Young Counties, North Texas, R. E. Colloom.

III. Recent Articles on Petroleum and Allied Substances, E. H. Burroughs.

IV. The Natural Hydro-Carbons, Gilsonite, Elaterite, Wurtzilite, Grahamite, Ozokerite and Others, Raymond B. Ladoo.

V. Collection and Examination of Rock Dust in Mine Air, W. A. Selvig, F. D. Osgood and A. C. Fieldner.

VI. Safe Use of Alternating-current Type of Coal-cutting Equipment, L. C. Isley and E. J. Gleim.

VII. The Relative Safety of Brass, Copper and Steel Gauges for Use in Miners' Flame Safety Lamps, L. C. Isley and A. B. Hooker.

VIII. Notes on the Magnesium Industry in the United States, W. C. Phalen.

IX. A Fatal Blasting Accident, Oliver Bowles and J. E. Crawshaw.

X. The Uses of Tale and Soapstone, Raymond B. Ladoo.

XI. Sulphur Dioxide as a Factor in the Smoke Problem of Salt Lake City, G. St. John Perrott.

XII. Dutch Guiana's Bauxite Ordinance, J. W. Thompson.



Under this heading THE MINING CONGRESS JOURNAL will hereafter carry a concise review of various orders, opinions and reports affecting freight rates throughout the country issued by the Interstate Commerce Commission and the Railroad Administration or any organization that may be made by law to succeed in any way to the functions of these two departments. The purpose is to get before our members the principal government mandates which affect our commodities, with a view to eliciting inquiries. It is not practicable to include much detail, but we are so equipped that we can give, upon inquiry, a full and complete analysis of any of the traffic problems which are brought to our attention. We hope that this chapter will be of interest and that you will advise us of your problems in order that we may give to each one the personal and complete attention which it cannot have in a review of this character.

General Notices.

Rate Advances.—The Commission has just concluded a very lengthy inquiry into what rates will be necessary to give the carriers of the country the amounts guaranteed to them by the Transportation Act, 1920. Various witnesses from all over the country have been heard, and a very large record is now before the Commission for its determination. The new rates will take effect September 1, when the Government guaranty expires, and it is generally thought that the Commission will hand down its decision during the month of July in order that ample time may be made for compilation and distribution of the tariffs. The Commission must determine just how much of an increase it will allow in each of the three great territories and whether freight traffic shall bear it all or not. It must also determine whether any of the numerous commodities are entitled to special treatment.

Earnings.—The latest figures available show that the net railway operating income for the first four months of this year is \$55,050,637, compared with \$51,575,720 for the first four months of last year. The figures for this year are not complete, owing to the fact that some reports have not been received by the Commission as yet.

Car Service.—The Commission has been quite active during the past month with car-service matters. The carriers were informed in somewhat definite language that the car-service orders of the Commission must be complied with. Arrangements have been perfected for the complete pooling of all lake coal shipments for the current season, and Service Order No. 5 has been issued, giving preference and priority to coal consigned to H. M. Griggs, manager of the Ore and Coal Exchange, at any Lake Erie port for transshipment by water as a part of a pool or pools of lake cargo or bunkerage coal at any such port. An embargo has been entered against all other coal except under permits issued by Mr. Griggs. The Car Service Commission of the American Railroad Association has issued general instructions to all carriers protecting open-top equipment and confining its use, as far as possible, to the movement of coal. Service Order No. 6 requires carriers to give preference and priority to bituminous coal moving to any tide-water coal transshipment pier at or north of Charleston for coastwise movement to a point in the United States, and also preference in supply of cars for such lading and in the movement thereof. This coal must be consigned to a pool or pools of bituminous coal at the transshipment port and preference and priority must be accorded to it in placement of cars and vessels and in dumping the coal. Service Order No. 7 requires carriers for a period of 30 days to give preference to coal in the use of open-top cars suitable for loading and transporting coal, with the proviso that such cars may be used in service moving in the direction of the empty movement, but not to points materially out of line or beyond the mine or mines to be supplied. Neither of the above orders contemplates any change in the rules governing the ratings of mines and

and distribution of cars when the available supply is less than 100 per cent.

Confiscation.—The Commission has notified all railroads that they should refrain from confiscating coal consigned to common carriers and to other public utilities.

Demurrage.—The Treasury Department has revised its regulations regarding war taxes, and holds that demurrage is a charge and a penalty imposed by a railroad company for the detention of its cars and the occupation of its tracks beyond a reasonable time after the arrival of the goods. It is not a part of the transportation and is not subject to tax. It is understood that claims can be filed for refund of taxes collected contrary to this rule.

Decisions of the Interstate Commerce Commission.

Coal.—The Commission has refused to find that the rate to St. Louis on coal, which is 20 cents over East St. Louis, is improper because it is held that the short-haul rate to East St. Louis is not sufficient to absorb the differential. In a case brought by the E. I. DuPont de Nemours Company the Commission holds that change of destination in transit of certain cars of coal on orders of the Fuel Administration constitutes a diversion, and it has awarded reparation because defendants' diversion rule excluding bituminous coal in hopper or self-clearing cars of defined ownership is unreasonable. In a case of the Lukens Steel Co. the rates on bituminous coal, in carloads, from points in West Virginia to Coatesville, Pa., are found not unreasonable. Reparation has been awarded the Cotton Manufacturers' Association of South Carolina for unreasonable rates on coal from Appalachia and Dante districts in Virginia to Spartanburg and other points in South Carolina. A complaint of the National Supply Co. has been dismissed, with a finding that the rates on anthracite coal from points in Pennsylvania to destinations in Iowa, Kansas, Missouri and Nebraska are not unreasonable or unduly prejudicial.

Petroleum.—In the case of Wadham's Oil Co. the rates on refined petroleum products from points in Kansas and Oklahoma to Milwaukee and Racine are found unjust and unreasonable, to the extent that they exceed by more than 3 cents per 100 pounds the rates on like traffic from the same points to Chicago. Rates on heavy oils are found unreasonable to the extent that they exceed 5 cents less than the rates on refined oils. In a case of the Gulf Refining Co. the rates on fuel oil from Bergen Junction, N. J., to Schenectady, N. Y., during the spring and summer of 1917, are found unreasonable to the extent they exceed 11.6 cents per 100 pounds, and reparation is awarded. National Refining Co. is given reparation for unreasonable rates on

petroleum and its products from Coffeyville, Kan., to Healdton, Okla.

Ores.—In a case brought by the Anaconda Copper Mining Co. the Commission finds not to be unreasonable and unjustly discriminatory various rates on smelter products from points of origin in the West to points of destination in the East. From points in Washington and Idaho the rates are found to be unduly prejudicial, and from points in Arizona and Texas to Galveston they are found unreasonable. The defendants' failure to establish refining-in-transit arrangement at Baltimore is held not to be unreasonable. Reparation is denied. Rates on copper bullion from points in Arizona to New York are not found to be unreasonable in a case brought by the Phelps Dodge Corporation, and rates on copper bullion from points in Arizona to Galveston are found unreasonable in the same proceeding.

Tentative Reports

Docket No. 10741—Cedar Rapids Gas Co. v. Director-General, as agent, Chicago, Rock Island & Pacific Railway Co. et al.

A tentative report in this case has been proposed by Attorney-Examiner Charles F. Gerry, the syllabus of which is as follows:

"Rates for the transportation of bituminous coal, carloads, from Jenkins and McRoberts, Ky., to Cedar Rapids, Iowa, found to have been and to be unreasonable to the extent indicated in the report. Reparation awarded."

Docket No. 11232—Lodwick-White Coal Co. et al. v. Director-General, Chicago, Burlington & Quincy R. R. Co. et al.

A tentative report in this case has been proposed by Examiner Thomas M. Woodward, the syllabus of which is as follows:

"Present adjustment of rates on coal from complainants' mines on the line of the Iowa Southern Utilities Co. to St. Joseph and Kansas City, Mo., and Atchison, L. Avenworth and Kansas City, Kan., and to points in Missouri intermediate to the Missouri River, found to subject complainants' mines to undue prejudice and disadvantage and unduly to prefer mines of its competitors located at or in the vicinity of Centerville and Trask, Iowa. Rates found not unreasonable as maxima. Division of joint through rates prescribed."

Docket No. 11786—Shafer Oil & Refining Co. et al. v. Director-General, as agent, Missouri, Kansas & Texas Railway Co. et al.

A tentative report in this case has been proposed by Examiner J. T. Money, the syllabus of which is as follows:

"Rate of 10.5 cents per 100 pounds charged on shipments of gas oil, in tank cars, from Cushing, Okla., to Neodesha, Kan., found to have been unreasonable and unduly prejudicial. Reparation awarded."

Docket No. 10887—The Consolidation Coal Co. v. Chesapeake & Ohio Railway Co., Director-General, as agent, et al.

A tentative report in this case has been proposed by Assistant Chief Examiner R. E. Quirk, the syllabus of which is as follows:

"Millers Creek Railroad held to be a common carrier, subject to the Interstate Commerce Act.

"Rates on coal, in earloads, from points on the Millers Creek Railroad, resulting from the cancellation by the Chesapeake & Ohio Railway of the absorption of the switching charge of the Millers Creek Railroad found not to have been unreasonable *per se*, but that such rates were and for the future will be unduly prejudicial to the extent they exceeded or may exceed the rates contemporaneously applicable from Group 5 district on the Sandy Valley & Elkhorn Railroad."

Docket No. 11114—Acme Cement Plaster Co. v. Director-General, The Fort Worth & Denver City Railway Co. et al.

A tentative report in this case has been proposed by Examiner W. R. McFarland, the syllabus of which is as follows:

"Rate on solar oil from Iowa Park, Tex., to Acme, Okla., found unjust and unreasonable. As the rate now in effect is satisfactory to complainant, complaint dismissed."

Docket No. 11240—Ludlow Manufacturing Associates v. Director-General, Philadelphia & Reading Railway Co. et al.

A tentative report in this case has been proposed by Examiner W. H. Wagner, the syllabus of which is as follows:

"Combination rates applied on barley and culm coal from Mahanoy and Shamokin Pa., districts, to Ludlow, Mass., found to have been unreasonable to the extent that they exceeded through rates contemporaneously in effect on prepared sizes, pea and buckwheat No. 1. Reparation awarded."

Docket No. 11152—Hord Alkali Products Co. et al. v. Director-General, as agent, and Chicago, Burlington & Quincy Railroad Co.

A tentative report in this case has been proposed by Examiner W. R. McFarland, the syllabus of which is as follows:

"Rates on slack coal, in earloads, from the Sheridan, Wyo., group of mines to Antioch, Hoffland and Lakeside, Neb., found not to have been or to be unreasonable except during the period from June 25, 1918, to February 19, 1919, inclusive. Reparation awarded.

"Rates on above traffic found not to have been or to be unjustly discriminatory or unduly prejudicial."

Docket No. 11210—Sinclair Refining Co. v. Director-General, as agent, The Atchison, Topeka & Santa Fe Railway Co. et al.

A tentative report in this case has been pro-

posed by Examiner John T. Money, the syllabus of which is as follows:

"Rates on sludge acid in tank-car loads from Arkansas City, Eldorado, Augusta and Wichita, Kan., found to have been unreasonable. Reparation awarded."

Docket No. 10727—B. F. Surtseyant Company v. Director-General, New York, New Haven & Hartford Railroad Co.

A tentative report in this case has been proposed by Examiner Lawrence Satterfield, the syllabus of which is as follows:

"Rates charged during the period of Federal control for the transportation of iron and steel castings and tubing between Framingham and Readville, Mass., not shown to be unreasonable or unduly prejudicial. Complaint dismissed."

Docket No. 11134—Jones & McLaughlin Steel Co. v. Director-General, Aliquippa & Southern Railroad Co. et al.

A tentative report in this case has been proposed by Examiner G. H. Mattingly, the syllabus of which is as follows:

"1. The Aliquippa & Southern Railroad found to be a common carrier.

"2. Rates to and from the plants of complainant and intervener at Woodlawn and West Economy, Pa., found unreasonable and unduly prejudicial. Reparation awarded."

Docket No. 11196—The Ohio Cities Gas Co. v. Director-General, The Chesapeake & Ohio Railway Co. et al.

A tentative report in this case has been proposed by Examiner R. T. Eddy, the syllabus of which is as follows:

"Through rate of 41.9 cents on *gasoline* from Cabin Creek Junction, W. Va., to Minneapolis, Minn., found to be unreasonable to the extent that it exceeded the aggregate of the intermediate rates to and from Chicago of 38 cents. Reparation awarded."

Docket No. 11051—Cosden Oil & Gas Co. v. Director-General, Atchison, Topeka & Santa Fe Railway Co. et al.

A tentative report in this case has been proposed by Examiner John T. Money, the syllabus of which is as follows:

"Rate on *wrought-iron pipe*, in earloads, from Shamrock, Okla., to Virgil, Kan., found to have been and to be unreasonable. Reasonable rate prescribed for the future and reparation awarded."

Docket No. 10754—The Kansas Flour Mills Co. v. The Atchison, Topeka & Santa Fe Railway Co., Director-General, et al.

A tentative report in this case has been proposed by Examiner George F. Graham, the syllabus of which is as follows:

"Rates on *coal*, in earloads, from certain points in Oklahoma consigned to Oklahoma

points and reconsigned to points in Texas found to have been unreasonable. Reparation awarded."

Docket No. 11105—Ohio Cities Gas Co. v. Director-General, Central Railroad of New Jersey et al.

A tentative report in this case has been proposed by Examiner R. T. Eddy, the syllabus of which is as follows:

"Rates on spent sulphuric or sludge acid, in tank-car loads, from Cabin Creek Junction, W. Va., to Carteret, N. J., found to have been unreasonable. Reparation awarded."

Docket No. 11087—Certain-teed Products Corporation et al. v. Director-General, Alabama & Vicksburg Railway Co. et al.

A tentative report in this case has been proposed by Examiner H. C. Keen, the syllabus of which is as follows:

"Rates on liquid asphalt, in carloads, from New Orleans, La., and refining points in Louisiana taking New Orleans rates found unreasonable to the extent that they have exceeded or may exceed 22½ cents per 100 pounds to St. Louis, Mo., East St. Louis and Vandalia, Ill., and 26½ cents per 100 pounds to Chicago and Marseilles, Ill. Reparation awarded.

"Rates on liquid asphalt, in carloads, from refining points in the Beaumont-Port Arthur district of Texas found unreasonable to the extent that they have exceeded or may exceed 26 cents per 100 pounds to St. Louis, Mo., East St. Louis and Vandalia, Ill., and 30 cents per 100 pounds to Chicago and Marseilles, Ill. Reparation awarded."

Docket No. 11202—Parkersburg Rig & Reel Co. v. Director-General, Atchison, Topeka & Santa Fe Railway Co. et al.

"1. Following *Parkersburg Rig & Reel Co. v. A. T. & S. F. Ry. Co.*, 50 I. C. C. 416, rates on nails, when shipped in mixed carloads with oil-well outfits and supplies, from Parkersburg, W. Va., to certain points in Texas, found to be unreasonable. Reparation denied.

"2. Numerous shipments of rig-iron outfits and nails in mixed carloads from and to the above points found to have been overcharged. Reparation awarded."

Docket No. 10082—Electric Coal Co. and Casparis Stone Co. v. Director-General, Chicago & Eastern Illinois Railroad Co. et al.

A tentative report in this case has been proposed by Attorney-Examiner Arthur R. Mackley, the syllabus of which is as follows:

"Rates on coal applicable during the period of Federal control from Bronson, Ill., to Chicago, Milford and Jamaica, all in Illinois, as components of through rates from Missionfield, made by combination on Bronson, considered as to their reasonableness.

"Separate rate of the electric line from Mis-

sionfield to Bronson not passed upon because that carrier was not under Federal control.

"Joint rate from Missionfield to Milford, effective from June 27, 1910, to February 20, 1920, found unreasonable, and reparation awarded against the carrier from Bronson to Milford."

Docket No. 11278—The Midland Refining Co. v. Director-General, Missouri Pacific Railroad Co.

A tentative report in this case has been proposed by Examiner K. K. Gartner, the syllabus of which is as follows:

"Complaint seeking reparation on two carload shipments of sulphuric acid from Coffeyville, Kan., to Eldorado, Kan., dismissed."

I & S. Docket No. 1170—Bituminous Coal from Sewell Valley Railroad Stations.

A tentative report in this proceeding has been proposed by Examiner E. H. Waters, the syllabus of which is as follows:

"Proposed cancellation of joint rates on coal from mines on Sewell Valley Railroad to destinations on the Chesapeake & Ohio Railway and its connections found not justified. The suspended schedules ordered canceled.

Docket No. 11262—Phelps Dodge Corporation v. Director-General, Arizona Eastern Railroad Co. et al.

A tentative report of this case has been proposed by Examiner I. T. Money, the syllabus of which is as follows:

"Rate of \$1.05 cents per 100 pounds applicable on coal tar, in carloads, from Hayden to Morenci, Ariz., found to have been and to be unreasonable to the extent it exceeded or exceeds 50 cents. A reasonable rate prescribed and reparation awarded."

Docket No. 11276—Mexican Petroleum Corporation of Louisiana v. Walker D. Hines, Director-General, as agent, Indiana Harbor Belt Railroad Co. et al.

A tentative report in this case has been proposed by Examiner J. Edgar Smith, the syllabus of which is as follows:

"Shipments of sulphuric acid in tank cars from Grasselli, Ind., to Destrehan, La., which moved during the period February 25, 1918, to December 1, 1919, inclusive, were overcharged. Neither the rates charged nor those which should have been charged were unreasonable; these rates did subject complainants to undue prejudice and were departures from the provisions of the long-and-short-haul clause of the fourth section of the act. No damage having been shown, and the carriers having offered to publish equal rates to apply on this commodity from Grasselli to Destrehan, Baton Rouge, La., and New Orleans, La., it is recommended that upon the publication of such rates and the certification to the Commission of the repayment of overcharges this proceeding be dismissed."

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Paul Wootton, News Editor.

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ENGINEER TELLS HOW TO CARE FOR COAL-MINING MACHINES

There are a number of things in connection with the use of mining machines that are absolutely necessary to insure economy and success in operation, and unless particular attention is given to them it is difficult to insure entire satisfaction to all parties concerned.

First and foremost is the attention to and the care of the bits, cutter chain and cutter arm. The bits should always be sharp, even if it necessitates frequent changing, as the time lost in changing is not nearly so serious as the strain on the machine when operating with dull bits. In addition to excessive strains, the motor is overloaded even to the extent of 100 per cent., and the wear of all parts is very materially increased.

The only way to have sharp bits is to keep a good supply on hand, and take them with the

machine. It is also very important that the bits be so shaped that they have sufficient clearance at the back, as a parallel sided bit increases the power consumption very materially. The forms sent with the machine show the correct shape, and someone should check these up occasionally and see that they are made correctly. The back part of the bit should be at least $\frac{1}{8}$ inch less in width than the front. Care should be used to see that the bits are set the right distance out from the chain in order to insure clearance for the cutter arm and the links, and also that the set screws are absolutely tight. Dull bits, insufficient clearance at the back of the bits, and insufficient clearance for the cutter arm are a source of a great deal of trouble on coal-cutting machines of all kinds, and it is most important that every care be used to insure satisfactory conditions in regard to these points.

The chain should be kept moderately tight, but not so tight that it binds, and it is often overlooked in inspecting that on new machines considerable slack develops in the first few hours of running, due to slight irregularities in the holes in the chain, which are smoothed down as soon as the machine is put into operation. The smoothing down of even .001 inch on a large number of links will add considerable to the length of the chain, and the tension should be watched very carefully on new machines. The chain should be tightened up as far as it will go, and then slacked off about one turn of the set screw. If the operator gives this matter some attention, he can soon arrive at the proper chain tension by observing how it acts under different conditions. It takes very little time to note the operation and experiment a little with various tensions, and it is well worth the trouble.

The hardened strips and wearing parts of the cutter arm should be renewed as soon as the center line of the chain gets out of line with the center line of the cutter arm, as this will cause a reduction in the depth of the kerf and cause the cutter arm to bind. The same condition is brought about by the wearing of the parts of the chain links which fit into the hardened guides on the cutter arm. This condition is easily detected by trying to lift the chain when it is not running. If it can be raised from $\frac{1}{4}$ inch to $\frac{3}{8}$ inch, these parts should be immediately renewed. It will be observed that the depth of the kerf is entirely dependent upon the chain being held in a central position.

In replacing broken links care should be taken that the new link will give the same bit position as the one taken out. In many cases the machine runners put in a new link without paying any attention to this, and in a short time a number of the positions in the chain are entirely eliminated so that the machine is not cutting over the full area of the kerf depth. This leaves portions of coal which are broken out by the chain links in-

stead of by the bits, with a consequent increased power consumption and wear and tear on all parts. Care should be taken to see that all bits are in position, as the chain links cannot be expected to cut coal.

Another serious matter in connection with the operation of the machines which is not looked after properly in a good many cases is the renewal of gearing. Gears are sometimes replaced without renewing the pinions, or pinions are replaced without renewing the gears. This is very poor practice, as a worn gear or a worn pinion is never satisfactory when operating with a new part. Unless one of the members is in practically a new condition it should never be left in when renewing the gear or pinion meshing with it. This is most serious with worn gears, as when one of the parts is badly worn it tends to destroy the other very rapidly.

With renewing bearings, all the bearings for a set of gears should be replaced in order to insure correct gear meshing, as it is very little use to replace the bearings on a shaft when the shaft carrying the meshing gear is running in partially worn bearings.

Another point that cannot be brought out too strongly is the question of keeping accumulations of dirt out of the motor and gearing, as a machine cannot be expected to operate satisfactorily when dirt is piled up around the bearings and gears where it can work into and destroy the rubbing surfaces.

E. E. VAN SLYKE, Consulting Engineer,
The Jeffrey Mfg. Co., Columbus, O.

HOLBROOK NEW ASST. DIRECTOR OF U. S. BUREAU OF MINES

E. A. Holbrook just has been designated assistant director of the Bureau of Mines. He has assumed his new duties. Some of the high points of his career are as follows:

He is 40 years old, born at Fitchburg, Mass., and attended the public schools there. When a young man, worked in mines in Montana. Was a member of the Miners' Union, the Western Federation of Miners.

1904—Graduated from the Massachusetts Institute of Technology in Mining Engineering.

1904—Sampler and underground surveyor, Standard Ore Company, Montana.

1905—Superintendent, Ruby Gulch Mining Company, Zortman, Montana.

1906—Superintendent, Gould Mines Company, Gould, Montana.

1907-8-9—General superintendent, Daly Reduction Company, Hedley, British Columbia. (This company was at the time the largest producer of gold in the Dominion of Canada.)

1909-1910—Examining engineer. Examined mine properties in Nevada, South Dakota, Georgia, Cobalt, Ontario and Province of Quebec, and was employed for a time at Guanajuato, Mexico.

1911-12-13—Headquarters, Halifax, Nova



E. A. HOLBROOK

Scotia. Designed and erected mining laboratory for Department of Technical Education, Province of Nova Scotia. General engineering work, mostly in coal mines, and for a time was in charge of the mining department of the Nova Scotia Technical College.

1913-15—Associate professor in the mining department of the University of Illinois, Urbana, Ill.

1915-17—Professor in same department. During this period continued engineering and investigational work in the coal mines of the central district.

1917—Made Supervising Mining Engineer, United States Bureau of Mines, in charge of the Middle West Coal Fields Station, Urbana, Ill.

1919—For six months Acting Chief Mining Engineer, Bureau of Mines, Washington, District of Columbia.

1919—July to present time, superintendent in charge of the Pittsburgh Experiment Station of the Bureau of Mines.

Author of about 25 articles on coal and metal mining subjects which have appeared in the technical press during the past 10 years. Author of two bulletins on Coal Preparation, published by the Engineering Experiment Station, University of Illinois.

Married and has four children.

Has honorary professional degree of engineer of mines, granted by University of Illinois in 1916.

TWO COUNTRIES INTERESTED IN BIG FIRST AID AND RESCUE CONTESTS

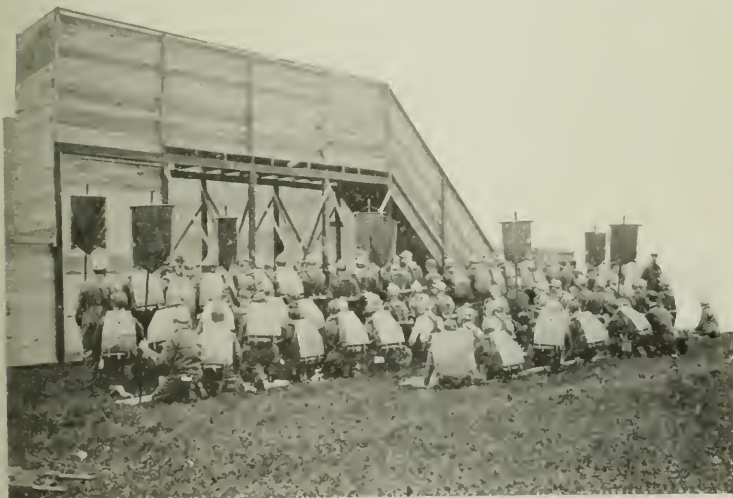
Teams of miners from Canada and Mexico have been invited to attend the International First Aid and Mine Rescue Contests to be held at Denver, Col., under the jurisdiction of the United States Bureau of Mines September 9, 10 and 11, and the meet promises to be of unusual interest to the mining industry.

Last year at the Pittsburgh meet about 125 teams of miners competed and although the exhibitions will be held this year in the far west, equally as large a number of entrants are expected.

Mine rescue and first aid work is gradually extending under the direction of the Mines Bureau and it is estimated that 100,000 miners have been trained in such work by this agency. In fact the movement is of great importance in all mining and is effective in saving the lives of many miners and preventing injuries to many more. The bureau maintains rescue cars and stations in all of the prominent mining districts of the country, and regularly sends out trained men who impart the instruction to the miners. Some of the instruction is given in mine rescue work alone, while other instruction is had in first aid, while in many cases the combined training has been given.

The system is so well organized and trained miners are represented in so many mines that now in case of a mine disaster a crew of trained rescuers and first aid men can be gathered within a fifty-mile point, capable of rendering quick treatment. The object of the training, which is bearing rich results, is to reduce deaths and lessen injuries among miners. It is said that practically all the mines of the country have either a rescue or first aid team or both at the mines available for duty, and the members take a great pride in their work. The results of the work are shown in that injured miners are able to return to work much earlier when they receive this prompt treatment. The practice of olden days in applying a quid of tobacco to a cut has gone into disuse with the new system, under which trained miners are able to use sterilized methods and treat wounds the same as an up-to-date doctor.

This work is more important in mines than in factories, because a miner is usually injured under the earth in darkness and heretofore it has been necessary to have him brought out into the light and air for treatment. The rescue work has been so developed that now first aid can be admin-



MINE RESCUE TEAM SHOWING BACK VIEW OF EQUIPMENT.

istered to the men in the mines. An instance is cited where a miner was crushed while in the mine. The rescuers applied body heat until other help arrived and it was said later that the man would have succumbed had not this treatment been applied. Practically all of the mining operators are heartily co-operating in this work, by affording the men materials and facilities and meeting places.

F. J. Bailey, assistant to the Director of the Bureau of Mines, is in administrative charge of the Denver exercises, which will be in direct charge of D. J. Parker, chief of the mine rescue work at the bureau's station, Pittsburgh, Pa. Inquiries in regard to the meet prior to September 1 should be addressed to Mr. Parker at Pittsburgh.

Handsome cups, trophies and other awards will be given to the winners in the competition, which is designed to promote interest throughout the mining industry in safety measures, and to instill an esprit de corps among miners which will mean a further saving of life and lessening of suffering.

In this connection it is interesting to note that the Joseph A. Holmes Safety Association, the hero commission for the mining industry, has announced the awards to miners for special deeds of bravery in the saving of human life during the last three years in the United States. Gold hero medals are to be presented to four Western miners and to the nearest surviving relatives of three others who sacrificed their lives in attempts to rescue other miners from death. The formal award of the medals will be made by Dr. Frederick G. Cottrell, director of the Bureau of Mines and president of the association, during the contest at Denver.

The men who will be awarded gold hero medals and diplomas and the deeds they performed are as follows:

John L. Boardman of Butte, Mont., safety engineer for the Anaconda Copper Com-



FIRST-AID TEAM OF THE H. C. FRICK COKE CO. AT WORK.

pany, who lone-handed saved three miners mine, adjoining the West Colusa mine, of the company and assisted in the rescue of a fourth. A fire in the Leonard copper mine, adjoining the West Colusa mine, filled the latter mine with poisonous gases. Boardman, wearing the oxygen rescue apparatus familiar to rescuers, at the risk of his life, entered the gas-filled mine four separate times to save life.

The next to receive the gold hero medal will be Daniel Bionvitch of Biwalik, Minn., an employee of the Balkan Mining Company. A fire broke out in the Belgrade mine of the company in which one life was lost and many others jeopardized. Three times Bionvitch drove his electric locomotive through smoke and gases, bringing out helpless men, and, finally, a fourth time he brought out a fellow-worker.

A third and fourth medal will be awarded to James Collins and James Dilimirk, both of Mullen, Idaho, and employees of the Gold Hunter Mining and Smelting Company of that place. While endeavoring to reach two entombed men in the mine, they themselves were caught by a cave-in and imprisoned for 15 hours; when rescued they were buried to the shoulders. The two men they were endeavoring to rescue, Peter F. Grant and Emil Sayko, were finally brought from the mine alive, after having been entombed for more than 14 days. Fellow-employees took seven days to drill a hole through to the imprisoned men, and by this means furnished them with food, water, light and silk clothing, after they had been without food for five days and without water for four days.

Three other heroes, miners for the North Butte Mining Company, at Butte, Mont., sacrificed their lives in trying to save others. The nearest living relative of each of the three men will be at Denver during the first aid and mine rescue contest and will



PRIZE TROPHIES



GIBBS APPARATUS, FRONT VIEW:

receive from Dr. Cottrell the gold medals and the diplomas detailing the heroic deeds of the dead men.

On June 8, 1917, a fire occurred in the Speculator shaft of the North Butte Mining Company. When the fire started Michael Conroy and Peter Sheridan of Butte, both employes of the company, started down into the mine to save their fellow-men, but before they reached them the fresh air which had been coming down the shaft reversed, allowing hot and poisonous gases to come up the shaft. When the cage was hoisted to the surface, the bodies of the two brave men were found on the cage burned to a crisp. The relatives of these two men will receive the medals.

James D. Moore, another miner at the same fire, went through the mine attempting to bring the miners to the surface. After he had collected seven men, he was driven back by the smoke and decided that the only hope would be to build a bulkhead as a protection against the gases and remain behind it until rescued. Under his direction the bulkhead was erected, requiring five hours for completion and inclosing the party of eight men. They obtained air from

a compressed line nearby. With nothing to do but wait, Moore cheered the men and in the meantime wrote a farewell letter to his wife. Sixty hours after the completion of the bulkhead rescuers wearing apparatus found the barricade and broke through and found six men alive and two dead, the latter including Moore. The six men were brought safely to the surface; they all gave credit to Moore for saving their lives, since without his guidance and direction they would have been suffocated.

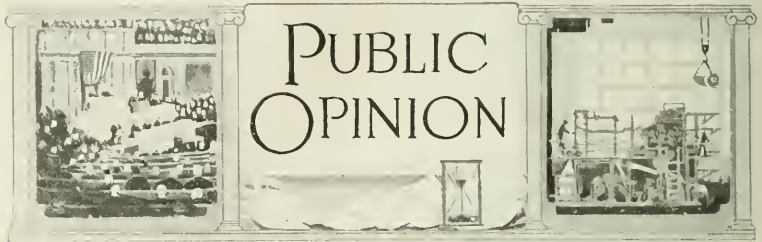
The awards were decided upon by a committee of the association, composed of James W. Paul, representing the Mine Inspectors' Institute of America; William Green of the United Mine Workers of America, and John Turner of the Mine, Mill and Smelter Workers. Others who participated in the making of the awards were James Lord, United Mine Workers of America; George S. Rice, American Institute of Mining Engineers; David White, American Academy of Sciences; O. P. Hood of the Society for the Promotion of Engineering Education; Arthur E. Holder, representing Samuel Gompers, president of the American Federation of Labor; Charles D. Walcott, vice-president of the association, and David T. Day, secretary.

The association was created shortly after the death of Dr. Joseph A. Holmes, the creator of the Bureau of Mines and its first director, and was in recognition of the memory of Dr. Holmes and the humanitarian work that he initiated.

After organization, the society agreed to award diplomas and medals of honor to persons in the mining and metallurgical industry for deeds of heroism or praiseworthy acts in efforts for the rescue of imprisoned miners or persons in jeopardy and to give recognition in proper awards for persons who may devise or put into use appliances for the benefit of greater safety or mine rescue or recovery operations.

Coal Mining Retarded

Owing to the withdrawal of all Alaska coal lands from entry in 1906, there was no development of the coal fields until the leasing law went into effect in 1914. Since then some advances have been made, but operations have been hampered by economic conditions imposed by the war and by certain restrictions in the leasing law. As a consequence Alaska has produced in all only 253,000 tons of coal, and her output in 1919 was only 60,000 tons. Meanwhile, she is importing annually about 100,000 tons of coal from Washington and British Columbia.



Charles Piez, president of the Link-Belt Company, in a letter to the United States Railroad Labor Board said:

"The practice of basing wages on the cost of living, without taking into account the work performed for the wages, is at the very bottom of the present disturbed and unsatisfactory labor condition. If we accept the figures submitted by Mr. Lauck that \$1700 represents the lowest subsistence level and \$2500 the lowest comfort level for an American family, and base the scale of wages in the transportation service on the assumption that every man engaged in it, no matter where he lives, whether married or single, is entitled to a wage based on a scale with those figures as minimums, would it not be fair to assume that every wage earner in every character of employment everywhere in this country is entitled to a scale based on that same minimum? Your board can render a signal service to the country by indicating that while wages should be equalized in those cases that have lagged behind in the wage readjustment, wages can't be paid unless they are earned, and that we can't get more out of the common pot than we put into it.

"The divorce of wages from production has been one of the calamities of the war, for it has created in the mind of the wage earner the delusion that irrespective of output, performance or character of service rendered, he is entitled to live on a certain scale.

Representative McLaughlin of Michigan in discussing the bill to permit associations of agricultural producers, said:

"I am opposed to special legislation or legislation in behalf of any special class. Organizations such as is contemplated by this measure have been considered by some as contrary to the letter of the anti-trust law. I believe that no one who knows anything about organizations of this kind would consider them contrary to the spirit of that law. I consider it as a definition of what are not objectionable organizations; a defini-

tion of entirely safe and proper organizations which are not intended to be included and which are not in fact included in anti-trust laws."

Representative Sanders, on the floor of the House, in discussing railroad legislation, said:

"The republic at war and the republic in peace require the same sort of patriotism, but that does not mean that the governmental policy shall be the same. The distinctive feature of the Government of these United States has been freedom of action for the individual; freedom of action in an orderly way with careful recognition of the rights of others. The great industries of the country, the vast business of the nation, the phenomenal prosperity of our people, the wonderful happiness in our land have all been brought about because of the recognition of this principle. Where other countries united business and the State, it has been the purpose of our statesmanship to separate the two. We have been most happy and contented during the times when the Government least touched business affairs.

"During this time of great development the Government has dealt with distinctly governmental affairs. It has not undertaken to carry on the business of the country. By legislation it prevented evil practices in business, but that is a governmental function. The problem of changing from the governmental policy during war times to the pre-war basis is not such a simple one, but rapid strides have been made toward this end. We must continue this course until there is a complete divorcement of business and Government.

Representative Parrish, in discussing the Revenue Law, said:

"The complicating features of the Revenue Law have made it necessary for all concerns doing a business of any consequence to employ an attorney at a high salary, or at a large fee, in order to tell them

how to pay their taxes to the Government. I believe that we ought to have a taxing system that will be so clear and plain that a man could tell what he owes the Government without paying out several thousand dollars to get an attorney to advise him. Not only that, but there comes a time in the conduct of the business enterprises of the nation when excess profits taxes or excessive taxation will stifle and stagnate industry. All over the country there are ranches that would be cut to pieces and sold to farmers and the farmers given an opportunity to buy farms, the country would get the benefit of increased production so much needed by the world at this time, if it were not for the high excess-profits taxes which they would have to pay. It seems to me that we ought not only to simplify the laws but also by the strictest economy in Government reduce the taxes and devise a system of taxation that will be just and that will not stifle any industry in the nation. Certainly a scheme of taxation that can be evolved which will not stifle any industry and which will not cause business stagnation is the duty of Congress to work out. Many men do not know what their taxes amount to, and their lawyers cannot tell them. I have a little sketch from a paper which shows in a way the popular idea of the complexity of these laws:

The Search.

We saw Diogenes the other day with his lantern.

"Still looking for an honest man?" we asked.

He shook his head mournfully.

"No; I gave that up long ago. I wish I'd stuck to it. It wasn't half so hopeless as what I am doing now."

He certainly looked despondent, and our heart went out to him.

"What are you looking for now, then?" we asked.

He sighed.

"I'm looking for a Congressman who made out his income tax without anybody's help."

The National Association of Manufacturers, at its recent convention, declared in favor of limited profit-sharing and against general profit-sharing. In summing up their opinion they say:

"We are of the opinion that general profit-sharing plans are, especially in large organizations, impracticable, are unacceptable to the wage earner, and that of the price paid by the consumer for the product that portion rightfully belonging to labor (the employee), should be paid as regular wages. Also that limited profit-sharing may be advised:

(a) To those employees held adminis-

trative positions, or directly connected therewith.

(b) For the promotion of savings, in the form of a contribution to be added to the employee's own payment to the savings fund.

(c) Lastly and most important of all, in the form of assistance to the employee to acquire ownership of an interest in the industry in which he is engaged."

Royal Meeker, in a recent issue of the *Monthly Labor Review*, says:

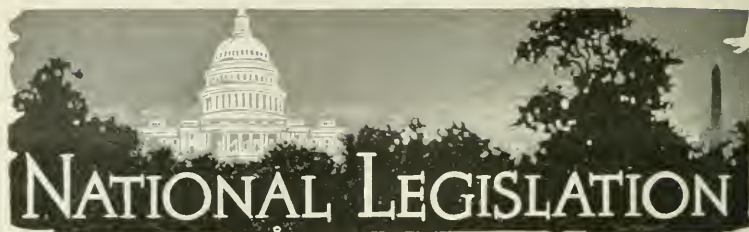
"Democracy, if it is not to perish from the earth, must be organized for efficiency. It must become far more efficient than it ever has been at any time in the past. We are told that democracy has just won a tremendous victory over autocracy. Our rejoicings must be tempered by the remembrance of the awful cost of the victory in lives shattered and snuffed out, in wealth squandered and destroyed, in the chaos which has been unloosened on the earth. When we count up the costs we do not feel too confident of the fullness of this victory nor too secure in its beneficent results. The victor suffered far greater losses both in men and in material wealth than the vanquished. Democracy won by sheer weight of numbers and of wealth. Had not autocracy been divided against itself it could not have been overthrown by the partial and inefficient democracies which opposed it. In order to win, democracy was driven to adopt autocratic methods and practices—methods and practices which still persist and till Democrats with apprehension. A speedy readjustment, political and industrial, on a more democratic basis is necessary. The few feeble, tottering steps which we have taken on the road toward democracy, both political and industrial, will not and cannot be retraced. The evils, shortcomings, and imperfections of our present democracy cannot be eradicated by reverting to autocracy which we have in part shaken off. The cure for democracy is more, not less democracy."

Development Stopped

The Alaska oil lands were withdrawn from entry in 1910, and thereby practically all petroleum development was stopped until the passage of the leasing law in 1920. In spite of this handicap some 53,000 barrels of petroleum have been produced in the Katalla field.

B. V. E. Nordberg, son of the pioneer engine and hoist builder, B. V. Nordberg, has been appointed sales manager of the Nordberg Manufacturing Co., Milwaukee, Wis.

H. W. Dow, former sales manager, recently resigned to become vice-president and engineer of the Forest Products Chemical Co., Memphis, Tenn.



The Sixty-sixth Congress adjourned June 5. It is not likely that President Wilson will call an extra session, and it is not now anticipated that the many important matters which should have received action before adjournment will be considered before the early part of 1921.

Among the more important bills which failed of final action were the War Minerals Relief and War Minerals Tariff bills. They, however, have preferential place upon the calendar and will come up for early attention shortly after Congress convenes on December 6.

There were introduced in the House of Representatives, during the Sixty-sixth session, 14,840 bills, and in the Senate 4721 bills, making a total of 19,561 bills introduced. The railroad transportation act was perhaps the most important of the measures to receive final action. The Water-power bill was signed in the ten days Attorney-General Palmer decreed allowed the President after adjournment of Congress. Uncertainty as to the legality of this act exists, some authorities holding that the President must act upon a bill while Congress is in session. The McFadden bill, for the protection of the monetary gold reserve, was not reported out by the House Ways and Means Committee, but early action is hoped for after December 6. Senator Henderson, shortly before adjournment, introduced a bill providing for the creation of a Division of Mines and Geology, with an Assistant Secretary of the Interior in charge of its activities. Senator New of Indiana introduced a bill providing for an Alaskan Development Board to supervise development of Alaska. Representative Darrow introduced a bill providing for an exhibition of mining and other products at Philadelphia in 1926, celebrating the 150th anniversary of the Declaration of Independ-

ence. The bills introduced to relieve miners from annual assessment work failed of action. The Hayden bill, providing for mining on Indian reservations, remains in committee without action thereon. Numerous tax bills were introduced, but none received final action. The Volstead "Blue Sky" bill is still in committee. An opinion by the Attorney-General, making adverse comments on the bill, created a situation which prohibited the committee on agreeing upon a bill. Coal came in for much discussion during the session, but no direct legislation was enacted. One of the most interesting coal bills provides for a Federal Coal Commissioner. The seasonal rate bills received considerable discussion, but no action was taken upon them. Senator Phelan introduced a bill providing for a Government Oil Corporation to develop oil in foreign fields, upon which Secretary of the Interior make a favorable report.

Legislation for the prevention of strikes in industry was one of the hardest fought pieces of legislation. The effort to put such a clause in the Cummins-Esch railroad law ended by substituting a Railroad Labor Board of nine members. The Poindexter bill, providing severe punishment for attempts to obstruct transportation or industries contributing to the transportation system, was reported from the Senate Interstate Commerce Committee during the closing days of the session.

With the reconvening of Congress many of these bills will again be considered. On the following pages will be found a complete resume of the present status of all bills which have been reviewed in the MINING CONGRESS JOURNAL since January 1. We shall be glad to forward copies of any bill to our members and to give any information possible concerning their status:

C. J. A. I.

Bill No.	Introduced by	Pending for	Referred to Committee	Headline	Appropriations	Present Status	Final Disposition
S. Res. 172	Mr. Rorer	Government control of coal	Judiciary			In Committee	
S. Res. 174	Mr. Burke	Government control for one year	Judiciary			In Committee	
S. R. 1756	Mr. Haysen	Abolishment of Government control after peace declared.	Judiciary			In Committee	
S. J. Res. 176	Mr. Keller	Government control of coal	Agriculture			In Committee	
S. J. Res. 176	Mr. Haysen	Information as to income and profits tax for 1918	Appropriations			Passed by Senate June 5, 1920	
S. P. 11942	Mr. Dyer	Prohibiting exportation of coal	Finance			In Committee	
S. 4588	Mr. Frelinghuysen	Federal Control	Interstate and Foreign Commerce			In Committee	
S. 4589	Mr. Frelinghuysen	Federal Coal Commissioner	Interstate Commerce			In Committee	
S. 4590	Mr. Culler	Federal Control	Interstate Commerce			In Committee	
S. 4587	Mr. Frelinghuysen	Regulation of Freight Rates - April to August	Interstate Commerce			Reported by sub-committee	
S. R. 12488	Mr. Tilton	Federal Control	Interstate Commerce			In Committee	
S. P. 12490	Mr. Bishon	Regulation freight rates	Interstate Commerce			In Committee	
S. R. 12511	Mr. Bishon	Federal Control	Interstate Commerce			In Committee	
S. R. 13146	Mr. Cooper	Regulation Freight Rates	Interstate Commerce			In Committee	
S. P. 13724	Mr. Cooper	Federal Coal Commissioner	Interstate Commerce			In Committee	
S. 4279	Mr. Frelinghuysen	Regulation of Freight Rates	Interstate Commerce			Reported by sub-committee	
P. R. 7005	Mr. Halliwell	Reorganization of production and distribution of coal	Judiciary			In Committee	
S. P. 7136	Mr. Halliwell	National security and defense by encouraging the production and distribution of coal	Judiciary			In Committee	
S. P. 146	Mr. A. I. R.	Authorizing the Secretary of the Interior to make a survey of the coal resources of the United States to insure a supply of coal for local industries.	Public Lands			In Committee	
S. Res. 126	Mr. Frelinghuysen	This bill empowers the Committee on Interstate Commerce to investigate into the causes which have brought about the increase in the market price of coal.	Contingent Expenditure	Headline held.		In Committee	

MINE LAWS

Bills No.	Introduced by	Provision for	Referred to Committee	Headline	Yeas and Nays	Final Disposition
H. R. 10925	Mr. Platt	Regulating, selling silver bullion and silver.	Coinage, Weights and Measures.		In Committee.	
H. R. 11226	Mr. Cushman	Authorizing authority of the Treasury to issue gold and silver coins, and fixing standard for gold coin at 90% fine, and 80% fine for silver coin.			In Committee.	
H. R. 12721	Mr. Platt	Amendment of Sub-Treasury.	Banking and Currency.		Referred in House Feb. 25.	Placed into law on legislative bill.
H. R. 13201	Mr. McFadden	Protection of monetary gold reserves, by giving upon newly mined gold.	Banking and Currency.	Monetary Gold H. R. 13201, 13202.	In Committee.	
H. R. 13043	Mr. Frew	Protecting gold and silver properties from looting and waste profits law.	Weights and Measures.		In Committee.	
H. R. 13262	Mr. Cushman	Prohibiting the destruction of gold coin as crime, and providing punishment therefor.			In Committee.	
H. 955	Mr. Thomas	Authorizing the President to appoint commissioners to an international monetary conference.	Coinage, Weights and Measures.	Weights and Measures.	In Committee.	

MINE LAWS

Bills No.	Introduced by	Provision for	Referred to Committee	Headline	Yeas and Nays	Final Disposition
S. 3922	Mr. Fleischhauer	Extension of time for failure to pay tax at time fixed by law.	Coinage		In Committee.	
H. R. 11594	Mr. Buchanan	Special Excise Profile law	Weights and Measures		In Committee.	
H. R. 12957	Mr. Nolan	Taxing law	Weights and Measures		In Committee.	
S. J. Res 157	Mr. Fink	Limiting nature of compilation access for file law.	Weights and Measures		In Committee.	
H. R. 13074	Mr. Green	Taxing law upon distribution capital stock during life.	Weights and Measures		In Committee.	
H. J. Res 115	Mr. Little	Tax upon all surplus and profits	Weights and Measures		In Committee.	
H. R. 12795	Mr. Johnston	Tax on corporations	Weights and Measures		In Committee.	
H. R. 12976	Mr. Thompson	Tax upon advertisements	Weights and Measures		In Committee.	
H. R. 13566	Mr. Bailey	Penalizing Federal organizations from taking	Weights and Measures		In Committee.	
H. R. 13771	Mr. Tracy	Fixing amount of apportionment upon individual income in excess of \$100,000	Weights and Measures		In Committee.	

PARADISE

Serial	Bill No.	Introduced by	Staff Head	Committee	Staffing	Present Status
1	H. R. 7935	McNair, Tex. (Secy)	Secy	Tonnage	None	Days and Years
2	H. R. 1317	Galster, Pennsylvania	Galster, Penna.	Admission	None	Days and Years
3	H. R. 7936	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
4	H. R. 1318	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
5	H. R. 1319	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
6	H. R. 1320	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
7	H. R. 1321	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
8	H. R. 1322	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
9	H. R. 1323	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
10	H. R. 1324	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
11	H. R. 1325	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
12	H. R. 1326	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
13	H. R. 1327	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
14	H. R. 1328	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
15	H. R. 1329	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
16	H. R. 1330	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
17	H. R. 1331	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
18	H. R. 1332	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
19	H. R. 1333	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
20	H. R. 1334	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
21	H. R. 1335	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
22	H. R. 1336	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
23	H. R. 1337	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
24	H. R. 1338	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
25	H. R. 1339	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
26	H. R. 1340	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
27	H. R. 1341	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
28	H. R. 1342	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
29	H. R. 1343	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
30	H. R. 1344	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
31	H. R. 1345	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
32	H. R. 1346	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
33	H. R. 1347	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
34	H. R. 1348	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
35	H. R. 1349	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
36	H. R. 1350	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
37	H. R. 1351	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
38	H. R. 1352	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
39	H. R. 1353	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
40	H. R. 1354	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
41	H. R. 1355	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
42	H. R. 1356	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
43	H. R. 1357	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
44	H. R. 1358	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
45	H. R. 1359	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
46	H. R. 1360	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
47	H. R. 1361	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
48	H. R. 1362	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
49	H. R. 1363	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
50	H. R. 1364	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
51	H. R. 1365	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
52	H. R. 1366	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
53	H. R. 1367	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
54	H. R. 1368	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
55	H. R. 1369	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
56	H. R. 1370	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
57	H. R. 1371	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
58	H. R. 1372	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
59	H. R. 1373	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
60	H. R. 1374	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
61	H. R. 1375	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years
62	H. R. 1376	Shaw, Kansas	Shaw, Kan.	Tonnage	None	Days and Years

L A B O R

Bill No.	Introduced by	Providing for	Referred to Committee	Headline	Appropriations	Present Status	Final Disposition
S. 6566	Mr. Wags	Establishing Bureau of Citizenship and Americanization in Labor Department	Immigration and Naturalization	Immigration and Naturalization	In Committee.		
S. R. 7024	Mr. Tinkham	Bureau of Unemployed and Living Conditions in the Department of Labor	Public Buildings & Grounds	Public Buildings & Grounds	In Committee.		
S. R. 6950	Mr. Mason	Bureau of the Unemployed	Labor	Labor	In Committee.		
S. R. 5874	Mr. Blanton	Repealing Literacy Test	Immigration and Naturalization	Immigration and Naturalization	In Committee.		
S. R. 6651	Mr. Johnson	Temporary Suspension of Immigration and Naturalization Committee	Immigration and Naturalization	Immigration and Naturalization	In Committee.		
S. R. 694	Mr. Nolan	National Employment Bureau in the Department of Labor	Committee on Labor	Hearings held May 18.	Reported to House		
S. R. 61	Mr. Larkin	Prohibiting Immigration for four years	Immigration and Naturalization	Immigration and Naturalization	In Committee.		
S. 1472	Mr. Harrison	Prohibiting Immigration for five years	Immigration and Naturalization	Immigration and Naturalization	In Committee.		
S. 1462	Mr. Kenyon	National Employment System	Education and Labor	Education and Labor	Reported to Senate		
S. J. Res. 114	Mr. Schaub	Investigations regarding insurance against unemployed	Labor	Hearings held	In Committee.		
S. J. Res. 14	Mr. Edge	Commission to devise Policy of Cooperation between Employer and Employee	Education and Labor	Education and Labor	In Committee.		
S. R. 5174	Mr. Hudspeth	Enforcement of Immigration Laws	Immigration	Immigration	In Committee.		
S. R. 10531	Mr. Rhodes	Old Age Pension	Labor	Labor	In Committee.		
S. R. 10738	Mr. Kelly	Collective bargaining in industries engaged in interstate commerce	Judiciary	Judiciary	In Committee.		
S. R. 10522	Mr. Sharwood	Old Age Pensions	Labor	Labor	In Committee.		
S. R. 10776	Mr. Kelly	Making teaching of laborism a felony and providing punishment therefor.	Judiciary	Judiciary	In Committee.		
S. 3466	Mr. Sutherland	Employers' liability	Education and Labor	Education and Labor	In Committee.		
S. R. 12320	Mr. Johnson	Prohibiting immigration for period of ten years	Immigration and Naturalization	Immigration and Naturalization	In Committee.		
S. R. 12447	Mr. Steagall	Prohibiting immigration until Jan. 1, 1960.	Immigration and Naturalization	Immigration and Naturalization	In Committee.		
S. R. 12679	Mr. Campbell	Creation Woman's Bureau, Department of Labor	Labor	Labor	In Committee.		
S. Con. Res. 90	Mr. Tinkham	Any committee appointed to investigate industrial strikes shall be composed of representatives of public interest	Judiciary	Judiciary	Passed by House 4, Senate		Public Law
S. 4107	Mr. Sheppard	Creation Bureau in Dept. of Labor to be known as Bureau of Interstate Cooperation Association.	Interstate Commerce	Interstate Commerce	In Committee.		
S. 4215	Mr. Fealingmyer	Providing for punishment for investigation of strikes among railroad employees.	Interstate Commerce	Interstate Commerce	In Committee.		
S. 4264	Mr. Folsomier	Providing punishment for investigation of strikes which prevent movement commodities.	Interstate Commerce	Interstate Commerce	Reported to Senate May 29.		

A R T I C L E S

Bill No.	Introduced By	Provided for	Referred to Committee	Headline	Present Status	Final Disposition
S. R. 1186	Mr. Steihs	Conferring additional powers on the Federal Trade Commission to investigate into corporations and ascertain whether such licenses are conducing interstate commerce as unuseful monopolies.			In Committee.	
R. R. 7763	Mr. Boreman	Amending the Federal Trade Commission Act of October 15, 1914. "An Act to supplement existing laws against unlawful restraint and monopolies."	Interstate & Foreign Commerce		In Committee.	
R. 1363	Mr. Henderson	Making it unlawful for any common carrier engaged in interstate commerce to charge or receive any greater compensation in the aggregate for the transportation of freight or passengers over a longer distance than for a shorter than a longer distance over the same line or to charge any greater compensation as a through rate than the aggregate of the intermediate rates for passenger or freight.	Judiciary		In Committee	
S. 1268	Mr. Curtis	Tampering Carriers from provisions Anti-Trust Laws	Interstate Commerce		In Committee.	Public Law 3958
S. 3750	Mr. Smith	Tampering Carriers from Anti-Trust Laws	Interstate Commerce		Passed House & Senate.	Public Law 4225.
R. R. 13136	Mr. Platt	To allow banks to have interlocking directorates.	Banking and Currency		Casper-Berman Bill, H. R. 13911 substitute for H. R. 13703, passed House May 31st.	
H. R. 13703	Mr. Holstead	Permitting combinations of farmers in selling their products	Judiciary			

PUBLIC LANDS

Bill No.	Introduced by	Provision for	Referred to Committee	Headline	Present Status	Final Disposition
S. 2149	Mr. Smoot	Agricultural entry of coal lands in Alaska.	Public Lands		Passed Senate Jan 5.	
S. 2150	Mr. Smoot	To authorize the consolidation of government lands and of privately owned lands.	Public Lands		In Committee.	
S. 2159	Mr. Smoot	To amend the act providing for the repayment of certain commission, excess payments and purchase money.	Public Lands		In Committee.	Public Law 499
S. 1770	Mr. Smoot	To permit miners over 18 years of age to make simultaneous entry on the public lands of the United States.	Public Lands		In Committee.	
H. R. 6973	Mr. Hernandez	Making available for entry temporarily withdrawn lands in New Mexico which are subject to the public lands laws and are available for location for non-metallic minerals, including oil and gas.	Public Lands		In Committee.	
H. R. 6946	Mr. Walling	Still to cede unincorporated public lands to the several states.	Public Lands		In Committee.	
S. 2217	Mr. Smoot	To apply a portion of the proceeds of the sale of public lands to the maintenance of schools or department of mines and mining.	Mines and Mining		In Committee.	
S. 1257	Mr. Myers	To provide for the agricultural entry of coal lands in the United States.	Mines and Mining		Passed Senate April 5.	
S. R. 10473	Mr. Hayden	Mining Copper on Public Lands in New Mexico, Arizona, Utah and Nevada.	Public Lands		In Committee.	
H. R. 11017	Mr. Rudington	Creation Department of Land and Natural Resources.	Public Lands		In Committee.	
S.	Mr. New	Alaskan Development Board	Territories		In Committee.	

MISCELLANEOUS (continued)			
GOV'T. DEPARTMENT EFFICIENCY.	H. J. Res. 296	Mr. Moore	Appointment of a Committee House and Senate to investigate and make recommendation of how Gov't. Bureau may be made more efficient. Rules.
VEGETIC SYSTEM	H. J. Res. 394	Mr. King	Providing for adoption of metric system.
OIL	H. J. Res. 3334	Mr. Durtie	Giving Americans right to prospect for oil in foreign countries.
	H. Res. 501	Mr. Dyer	Investigating the rise in the price of gasoline.
OIL CHART.	H. J. Res. 2671	Mr. Henderson	The Bill authorizes the Secretary of the Interior to conduct geological investigations through the Bureau of Mines of oil shale, to determine the commercial and economic practicability of its utilization as a commercial product, to conduct geological investigations, to determine the cost to meet the expenses incurred. Mines and Mining.
NATIONAL BUDGET SYSTEM	H. R. 9743	Mr. McCordish	National Budget System for Government affairs. Special Committee on National Budget.
			Passed by House and Senate sent to President for signature.

SALE OF SILVER UNDER PITTMAN ACT SIMPLIFIED—NEW FORM OF AFFIDAVITS

Under the express terms of the Pittman Act, silver purchased by the Director of the Mint under the act at the fixed price of \$1 per ounce one thousand fine must be the product both of mines situated in the United States and of reduction works so located. As previously announced, the Director of the Mint has received standing orders from the Secretary of the Treasury to purchase silver under the act up to an aggregate amount of 207,000,000 ounces, delivered at the option of the Director of the Mint at the Assay Office in New York, or at the Mints in Philadelphia, Denver, or San Francisco, and is making such purchases when satisfied by clear and unequivocal proof that the silver is the product of mines situated in the United States and of reduction works so located. Forms for such proof, appropriate for use in case of silver wholly produced and reduced in the United States, without admixture of foreign silver, were furnished to said Assay Office and Mints under date of May 15, 1920.

In order to cover the practical situation presented by the fact that a large proportion of the domestic production of silver is smelted and refined in conjunction with foreign silver and comes from the refineries as part of a mixed product of domestic and foreign silver, the Director of the Mint is further prepared to purchase under the act silver which forms part of a mixture of foreign silver and domestic silver up to the proportionate part of such mixed product which represents the product of mines located within the United States and of reduction works so located, upon clear and unequivocal proof as to the proportionate part of the mixed product which represents domestic production. Forms for such proof, appropriate for use in case of mixed silver, will be available at the Assay Office and Mints, and in addition to a general affidavit from the vendor in each case will include supporting affidavits from the miner, smelter and refiner, together with such sworn statements and exhibits from their books of account as may be required by the Director of the Mint. The form of general affidavit from the vendor, and of supporting affidavit from the miner are appended hereto for the information of all concerned; full information as to the additional supporting affidavits and proof will be available at said Assay Office and Mints. Deliveries of mixed silver under the act will be accepted upon the filing of a satisfactory general affidavit by the vendor, subject to the later filing of

the necessary supporting proof. It will be noted that as to the mixed silver already produced and refined, it will be necessary to show that the silver mined in the United States which enters into the mixed product, was delivered to reduction works located in the United States since January 17, 1920. It will be noted further that in order to have assurance that the benefits of the Pittman Act go to American producers, for whom they were intended, the Director of the Mint will require in connection with the purchases supporting affidavits from the miners to the effect that settlement has been made with them on the basis of the fixed price of \$1 per ounce, adjusted to the equivalent price for silver 990 fine and to the cost of delivery refinery to Mint.

The form of affidavit by vendor in connection with purchase of silver under Pittman Act is as follows:

State of..... }
County of..... } ss.

In order to make a sale of silver to the Director of the Mint in accordance with the provisions of the Pittman Act, approved April 23, 1918, the undersigned hereby represents and certifies under oath that he is the..... of....., owner of certain silver to the amount of.....fine ounces, more or less, forwarded to the United States Mint at..... on the.....day of.....1920, and delivered for sale to the Director of the Mint under the provisions of said Act for account of said vendor; that said silver is the product of mines situated in the United States and of reduction works so located, being either (1) wholly without admixture of the product of foreign mines or reduction works, or (2) part of a mixture of foreign silver and domestic silver delivered to domestic reduction works since January 17, 1920, and within the proportionate part of such mixed product which represents the product of mines located within the United States and of reduction works so located, delivered by such mines to such reduction works since January 17, 1920, after taking into account sales heretofore made to the Director of the Mint under said Act; and that the vendor will forthwith file with the Superintendent of said Mint such statements and exhibits from its books of account and also such supporting affidavits and sworn statements or exhibits by itself and by the miner, smelter and refiner as may be demanded by the Director of the Mint under said Act.

Subscribed to and sworn to before me this
day....., 192.....

The miner's supporting affidavit follows this form:

State of..... }
County of..... } ss.

The undersigned, being duly sworn, deposes and says: That he is the..... of..... owner of the..... mine, situated in the County of..... State of.....; that the said..... has sold and delivered to..... on the..... day of..... 1920, at its smelting plant known as the..... smelter, situated in the County of..... State of..... fine ounces of silver which was produced at the said mine located as aforesaid and contained in certain parcels of ore as described in settlement or liquidation sheet No..... of said..... and that said silver was paid for at the rate of not less than \$1 per ounce, adjusted to the equivalent price for silver 999 fine and to the cost of delivery refinery to mint.

Subscribed to and sworn to before me this
day....., 192.....

OREGON PLANS TO DEVELOP ITS IRON ORE DEPOSITS

The Oregon Bureau of Mines and Geology Commission held its annual meeting on June 4 at the office of the Bureau in the Oregon Building, Portland. The various activities of the Bureau were considered and a number of important lines of investigation authorized for the coming field season.

One of the interesting developments in the State is the finding of several deposits of iron ore in Columbia county. During the past several months the Bureau of Mines and Geology has made some investigation of the occurrence of the ore in this county. Representations made by the Bureau induced certain Chicago interests to come to Oregon to look into the situation with a view to establishing a plant for the manufacture of pig-iron. Considerable prospecting is now under way in numerous parts of the county, and the outlook is bright for the establishment of a real iron industry near Portland. The Bureau maintains close touch with this situation and is lending every assistance to render the present development as substantial and effective as possible.

Change Chicago Address

The Ingersoll-Rand Company of Illinois and A. S. Cameron Steam Pump Works, Chicago branch, announce a change in address. The new offices will be located at 709 Fisher Building, Chicago, Ill.

INDUSTRIAL NOTES

Worthington Pump & Machinery Corporation announce the purchase from the Platt Iron Works of Dayton, Ohio, their drawings, patterns, jigs, templates, special tools, goodwill and name on their following lines of product:

1. Oil mill machinery, suitable for the extraction of oil from all sorts of nut and seed products, comprising crushers, cookers, cake formers, presses, filters and pumps.
2. Hydraulic turbine and water-wheel line, covering their entire line of hydraulic turbines and water-wheels, horizontal and vertical, high and low head.
3. Feed water heaters, steel and cast-iron, horizontal and vertical.
4. High pressure air compressors for torpedo and other high-pressure charging, cleaning and discharging.

Gold Mining Slumps in Alaska

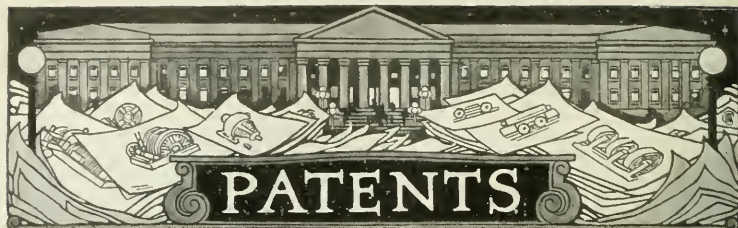
Alaska gold mining, like that of the rest of the world, has been curtailed because of economic conditions imposed by the war. As a consequence the value of the Alaska gold output has steadily declined from \$17,242,000 in 1916 to about \$9,550,000 in 1919. Gold mining has long been the principal Alaska industry, for though it has employed far less men than the fisheries, yet the prospectors and miners, unlike the fishermen, were all permanent residents of the Territory. In the past over 60 per cent. of the population has been directly or indirectly employed by the gold-mining industry. Therefore the decline in gold mining has been the principal cause of Alaska's loss of population and the discouragement of her residents. In 1916 4,000 men were engaged in placer mining; in 1919 only 2000.

Platinum Being Mined

Platinum and related metals are being mined in Alaska. During the war Alaska produced antimony, chromite and tungsten. The known reserves of these metals are considerable. Quicksilver mining has been carried on in a small way for many years in the Kuskokwim region, and will no doubt continue. Molybdenite and bismuth ores are rather widely distributed in Alaska, and nickel ores have been found in the Territory.

Juneau Suffers

Alaska gold lode mining in the past has been chiefly based on large low-grade deposits of the Juneau district, whose profitable exploitation has been possible only by very large operations. The enormously increased cost of mining, owing to the present economic conditions, has greatly curtailed mining at Juneau.



CONDUCTED BY JOHN BOYLE, JR.

1,339,056—*George Demain*, Nogales, Ariz.
Ore-separating Machine

1,339,161—*William E. Bryan*, Akron, Ohio.
Mechanical Classifier in which there is an inclined reciprocating deck having longitudinally extending tapered riffles, a pipe extending along the crest of the deck and an inclined feedboard disposed above the upper rear portion of the deck, and provided with riffles similar in character to those of the deck.

1,339,252—*Roman Zelewski and Hermann Siegel*, Engis, Belgium.

Device for Pushing Back Ores into the Interior of Mechanical Muffle Roasting Furnaces.

1,339,300—*W. G. Stewart, F. A. Jordan, E. W. Davis and T. B. Counselman*, Duluth, Minn.

Process for the Magnetic Sizing and Grading of Ore consisting in imparting a desired velocity to a body of ore particles, then subjecting said particles to a magnetic attraction to withdraw substantially all save large tailing particles, then subjecting the remainder of said ore to magnetic attraction of such strength as to withdraw the fine concentrates from the middling and large high-grade particles.

1,339,471—*Archibald F. Meston*, New York.
Assigned to Research Corporation.

Electrical Precipitator comprising a collecting electrode and a discharge electrode, means for striking the discharge electrode intermediate its ends to cause vibration thereof.

1,339,489—*Walter A. Schmidt*, Los Angeles, Cal. Assigned to International Precipitation Company.

Electrical Precipitator in which a clean electrode surface is maintained for receiving the precipitated material by distributing a liquid in a film over a porous surface, constituting a receiving electrode.

1,339,621—*Joseph A. Herbert*, Freeport, Tex.
Apparatus for Raising Liquids from Deep

Wells and especially adapted for sulfur mining.

1,339,682—*Charles Allen*, El Paso, Tex.

Settling-basin Separating Device. The method of preventing irregularity in the discharge of solid particles through the outlet orifice of a dewatering settler adapted to accumulate a substantial bulk of settled material which consists in filling the space centrally above the orifice and below the level of the settled material in a manner to leave an attenuated passage for the settling solids extending from above the discharge orifice for an appreciable distance.

1,339,683—*Charles Allen*, El Paso, Tex.

Upward Current Separating Process and Device. A method of varying the upward movement of a liquid carrying solid particles overflowing the top of the tank in a settling device by varying the length of the overflow periphery, whereby the velocity of the overflow of the liquid over the overflow lip is controlled.

1,339,684—*Charles Allen*, El Paso, Tex.

Slime Pulp Thickener.

1,339,950—*John T. Fowler*, Columbus, Ohio.
Assigned to Jeffrey Manufacturing Co.

Pulverizer.

1,339,955—*Jean A. Hardel*, Paris, France.

Apparatus for and Process for Lining Wells and consisting in placing cement about a mold in the well and depositing a retaining core within the lining when the mold is withdrawn.

1,342,457—*Edmund Newton*, Minneapolis, Minn.

Apparatus for Separating Magnetic Material.

1,340,498—*Charles A. Pratt*, Chicago, Ill.
Assigned to Goodman Manufacturing Co.

Power Shovel.

1,340,535—*Edward H. Garcin*, New York.

Process of Treating Asbestos comprising subjecting the asbestos to water and steam.

and disassociating the fibers by mechanical means.

1,340,731—*Edmund C. Morgan*, Chicago, Ill. **Mining and Loading Machine** provided with a supporting frame comprising a chute open at its forward end, a carrier movable back and forth at the forward portion of the chute, means for dislodging material from a mine wall in advance of said frame and means for operating said carrier for receiving the dislodged material directly from its position in the mine wall, and transferring such material to the forward open end of said chute.

1,341,624—*Harry T. Seale and Wilton Shell-shear*, New South Wales, Australia. Assigned to Minerals Separation, North American Corporation.

Flotation Apparatus for Sulphide Ores comprising a number of separating boxes, communicating passageways between the boxes below their liquid level, agitating means within the separating boxes below their liquid level and disposed in the path of pulp flow from box to box, submerged casings surrounding their zones of agitation, means for introducing air into the casings and supplemental level equalizing passageways between the separating boxes.

1,341,120—*Ernest R. Hopkins*, Independence, Mo.

Dust Collector in which there is an upper chamber provided with an inlet and a lower dust-receiving chamber, filtering material interposed between the chambers, means to intermittently cut off the dust-laden air from the upper chamber and means for jarring the upper chamber and the filtering material to loosen the dust from the latter.

1,341,208—*Rudolph Gahl*, Miami, Ariz.

Ore-leaching and Settling Tank of considerably greater length than width, and adapted to contain large quantities of ore and liquid, means for elevating and delivering settled material from the bottom of the tank, said means comprising a float and slime elevating and delivering apparatus carried thereby.

U. S. Buys More Silver

Purchase of 1,700,000 ounces of silver at \$1 an ounce for delivery at Philadelphia and San Francisco was announced today by the director of the mint. This makes a total of 3,200,000 ounces acquired by the Government under the authority of the Pittman act this month.

Treasury officials estimate that 207,000,000 ounces of silver must be purchased under the provisions of the Pittman act, but they do not expect this to increase the price of silver, as there is little demand for the metal abroad at this time because several governments have ceased temporarily the coinage of silver money.

WILLARD GIBBS MEDAL AWARDED TO DR. COTTRELL

DR. FREDERICK G. COTTRELL, recently named Director of the Bureau of Mines, was awarded the Willard Gibbs Medal by the Chicago Section of the American Chemical Society.

This prize, named for a distinguished American scientist, was founded by William A. Converse of Chicago, and is conferred "in recognition and encouragement of eminent research in theoretical and applied chemistry."

A Tip for Gold Miners

The most promising present field for Alaska gold lode mining is in the exploitation on a small scale of the auriferous lodes of higher gold tenor which have been found in many localities, notably in the Willow Creek and Fairbanks districts. Geologic information indicates a wide distribution of auriferous deposits, and there is every reason to believe that other workable deposits of gold-bearing quartz will be developed when the country is opened up by railroads and wagon roads.

Alaska's Coal Resources

Much the larger part of the coal reserves of Alaska are lignitic, which, under present methods of utilization, are not available for export. The Bering River and Matanuska fields contain, however, very high-grade bituminous coals of a better grade than any found on the Pacific seaboard, as well as some anthracite. These coals are for the most part closely folded and much broken, making them expensive to mine and rendering them in part unavailable for present profitable exploitation. There are, however, in both fields high-grade coals that can be mined, and these will find an export market. Until these fields have been more thoroughly prospected by underground exploration it is impossible to predict how large an annual tonnage can be produced from them.

Copper in Alaska

Copper deposits are widely distributed in Alaska, and there is every reason to believe that their exploitation will increase under better transportation conditions. Much the larger part of the present copper output has come from the high-grade ores of the Chitina district. Larger bodies of low-grade ore have been found in several districts, notably on Prince William Sound, and the exploitation of these should give a greater stability to the Alaska copper-mining industry.

Matador Petroleum Company

The Matador Petroleum Co., of Cheyenne, Wyoming, of which Max W. Ball is general manager, has been organized to carry on the activities heretofore conducted in the Rocky Mountain States by the Roxana Petroleum Co., of Oklahoma, the Roxana Petroleum Corporation and the Shell Company of California.



First photograph of the Anthracite Coat Commission which President Wilson recently appointed to investigate differences between miners and operators. Left to right—W. L. Connell, Dr. W. O. Thompson and Neal J. Ferry. James A. Gorman, Executive Secretary, is standing. The commission is conducting its hearing at Scranton, Pa.

PLAN TO HURRY ALASKA'S DEVELOPMENT SUBMITTED

Plans are now being worked out for the greater development of Alaskan resources through policies which will attract new capital and improve transportation connection with the United States. Recommendations made in the report of a special committee appointed to study the Alaskan situation have been approved by Secretary Payne, and he has instructed the committee to put them into effect as soon as possible.

Two of the most important steps taken by the Department of the Interior are efforts to consolidate the two American shipping lines now serving Alaskan ports, with a view to greater economy and efficiency, and consolidation of Federal supervision of Alaskan affairs to secure prompt action.

Co-operation of the commercial organizations now interested in Alaska is expected in the plans for the opening of the resources of the territory, Secretary Payne said today. Conferences are expected to be held shortly with representatives of the Pacific Steamship Company and the Alaska Steamship Company, at which their opinions will be expressed. The purpose of the Department is to open the country generally to Americans.

"Alaska has immense natural resources which have never been developed properly," said Secretary Payne. "During the war the white population of the territory actually decreased from 50,000 in 1915 to 36,000 at present, and the output of minerals and other industries showed a similar decrease. The rich mining, agricultural and fishing reserves of the region have never been made properly available. Under the policies which the Department of the Interior is now putting into effect an opportunity will be given for the investment of new capital.

"Exploitation of the resources of the territory will not be turned over to one interest or group of interests. Improvement of shipping and railroad facilities is undertaken with the purpose of admitting fresh capital and opening the country for settlement by American citizens.

"The first step in this direction is the lowering of freight and passenger rates and the improvement of transportation and mail service through economies introduced by combination of two existing steamship lines into one, which the department hopes to effect.

"Concentration and co-ordination of Federal control of Alaska lands and resources is contemplated by obtaining legislative authority for an Alaska Development Board, and,

pending this, by the appointment of an Inter-Departmental Alaska Committee.

"Other plans include the co-ordination of Federal road construction, and the development of a plan for a comprehensive system of roads and trails to serve the entire territory. Also the requesting of an appropriation of at least one million dollars for the inauguration of this system.

"Investigation of the feasibility of smelting Alaska copper ores on a commercial basis within the territory will be undertaken. Of great importance also is the immediate development of an Alaska pulp-wood industry, and additional surveys of timber and water power looking to the largest possible development of this industry."

The policies endorsed by Secretary Payne are based upon a report just submitted by a committee consisting of Dr. Alfred H. Brooks, chairman, representing the Department of the Interior; H. Y. Saint, for the Shipping Board; Otto Praeger, Second Assistant Postmaster-General, and E. A. Sherman, Department of Agriculture. The committee has completed a month's study of the Alaskan situation, involving extensive hearings in Seattle, at which representatives of various Alaskan interests were questioned.

The total value of Alaska's mineral, fish, fur and other products from 1867 to 1916 has been approximately one billion dollars. The most prosperous year was 1916, when the total output was \$89,000,000. Alaska contains extensive areas of farm lands suitable for raising the hardier grains, including wheat, potatoes, forage crops and many varieties of vegetables. The timber resources include about 75,000,000 acres of forest. Nearly all of Alaska's resources are directly or indirectly controlled by the Federal Government. About 99 per cent. of the land is still in Government ownership. The development of coal and oil deposits is under Government leases. Water-power and fisheries are under Federal control, and nearly all Alaska timber is in Government ownership.

COAL OPERATORS NOT PROFITEERS, DECLARES EDITOR OF LESLIE'S

In a recent issue of Leslie's Weekly, Dr. Charles A. Eaton, its associate editor, writing on "The Truth About the Coal Situation," urges that if the problems facing the soft coal industry were better understood by the public there would be a far different national attitude toward it. Dr. Eaton, who during the war was director of the national service section of the United States Shipping Board, and is regarded as an authority on industrial problems, says that the soft coal industry has been badly misrepresented before a "hostile and uninformed or misinformed public opinion which is ready to believe anything bad about the coal operators and nothing good." He dwells upon the serious shortage of coal cars

as one of the difficult problems facing the soft coal industry. In discussing prices of coal at the mines he says that "the rank and file of operators are not open to the charge of profiteering, nor have they made undue profits even during the war."

The article reads in part as follows:

"Next to agriculture coal is the nation's basic industry. What food is to the body coal is to the economic fabric of society. Along with these two stands transportation, constituting a threefold foundation for the prosperity, progress and stability of all classes and sections alike.

"The coal industry is of vital importance to every one, but its condition has been, and still is, so chaotic that one wonders how we have managed to get as far as we have without serious national disaster.

"Roughly speaking, there are about ten thousand bituminous coal mines and some seven thousand operators in our coal-producing areas. The country needs annually for normal use about five hundred million tons of bituminous coal. The mines now being operated have an annual capacity of 750,000,000 tons."

Dr. Eaton points out that, with an annual value of \$1,300,000,000 for the coal mined, the labor cost of producing it has been \$741,000,000, and that this was increased by \$200,000,000 under the recent wage advance of 27 per cent. awarded by the Bituminous Coal Commission. He goes on to say:

"It needs always to be kept in mind that after the coal leaves the mine there are the wholesaler and retailer who come in for a profit. And among these are some who do not hesitate to take all the traffic will stand.

"But the rank and file of the operators are not open to the charge of profiteering, nor have they made undue profits even during the war.

"According to reports furnished by the National Coal Association, and which I have not seen contradicted, some 400 operators in 1917 made profits of over 15 per cent. upon their capitalization, while 6600 operators made less than this. In that year the total output was sold for an average price of \$2.26 per ton at the mine. Out of this all operating expenses, fixed charges and taxes had to be paid.

"In 1918 under Government regulation the average price at the mine was \$2.61. According to Dr. Garfield, this price left only an average margin of 46 cents per ton, and of this 46 cents 30 cents was paid in Federal taxes.

"In the report of the Bituminous Coal Commission the tax returns to the Treasury of some 1551 coal-mining concerns are tabulated for 1918. These companies produce about one-third of the total output, and they represent fairly the industry as a whole. In that year 337 of these 1551 operators reported a loss. After deducting taxes the average per cent. net income to invested capital in 1918

for the 1214 companies reporting profits was less than 11 per cent., and for the entire 1551 companies it was 9.72 per cent.

"Under our present system of taxation a business must earn at least 10 per cent. in order to equal the income upon 4½ per cent. Government bonds. So that it would seem that these coal companies can hardly be justly accused of undue profiteering.

"Coal mining is a hazardous calling both for investors and workers. It is a seasonal occupation involving slack times alternating with expensive forced output. There is a continuous car shortage, which means shutting down work sometimes for 20 days out of 30. Meanwhile in many mines water has to be pumped all the time whether coal is shipped or not. Slate caves in; sulphurous water destroys tools and tracks. Explosions and fires are a constant menace. As mining advances there is a growing depletion of resources and rapid depreciation of equipment.

"In view of these facts it is not surprising to learn that in 1915 the average return upon investment in the mining of bituminous coal was less than 1 per cent., while in 1913-1914 coal companies representing a capitalization of over \$100,000,000 were in the hands of receivers.

"The operators have been without any means of reaching public opinion with the facts. And they face a hostile and uninformed or misinformed public opinion, which is ready to believe anything bad about the coal operators and nothing good.

"There are certain radical changes necessary in order to place this basic industry upon a safe footing.

"First of all, the mines must have cars when they are needed, and as many as are needed, in order to distribute production over the whole year evenly.

"We must have a new national attitude toward the coal-mining industry. We must help the coal industry to escape from an intolerable car situation; from an unjust and ignorant public opinion; from autocratic, wasteful and destructive labor policies and practices; from a miserably credit system, and from a destructive governmental attitude.

"Then we can have fair oversight and regulation by Government which will tend to make the industry more efficient; reduce costs and lower prices, while at the same time giving employer and employe a generous reward for hard and unpleasant work well done."

PERSONALS

Bruce White, Frank Reeves and J. M. Vetter will do oil work in Central Montana.

J. S. Diller is now able to attend to his office duties

W. T. Thom, Jr., has returned from Austria, where he was engaged in relief work.

Dr. F. G. Cottrell, director of the Bureau of Mines of the Department of the Interior, was appointed by Secretary John Barton Payne to represent him on the Interdepartmental Defense Board of the Council of National Defense. Dr. Cottrell will succeed Dr. Van H. Manning, who served on the board from its creation until he resigned from the Government service to become the technical director of the Division of Research of the American Petroleum Institute.

H. A. Buehler, State geologist of Missouri, was a recent visitor to Washington, conferring with Bureau of Mines and other officials of the Interior Department on phases of work.

Victor C. Alderson, president of the Colorado School of Mines, Golden, Col., is in Europe. He will visit the shale deposits of Scotland and France, investigating recent discoveries and methods of recovery. Dr. Alderson is the chairman of the Oil Shale Section of the American Mining Congress.

Allen N. Rodgers of New York has resigned as assistant valuation engineer of the metals section of the Income Tax Unit, Treasury Department.

Lewis A. Levensaler, consulting mining engineer, announces opening of offices at suite 902 Hoge Building, Seattle, Wash.

D. F. Hewett has returned from Cuba, where he has been doing both private and Government geological work.

J. T. Pardee will soon leave for Western Montana and Washington to do work in glacial geology.

J. P. Dunlop is in charge of the Division of Mineral Resources in the absence of Mr. Loughlin, who is making investigations in Eastern Massachusetts.

C. E. Siebenthal returned June 17 from the Mississippi Valley, where he visited zinc mines in Wisconsin, lead mines in Southeastern Missouri, and fluorspar deposits in Southern Illinois and Western Kentucky.

J. P. Buwalda left Washington June 25 for Idaho, where he will do co-operative work with the Idaho Bureau of Mines and Geology in the study of tertiary basins of the western part of the State, giving special attention to possible oil and gas.

THE MINING CONGRESS JOURNAL

Official Publication of the American Mining Congress

APPRECIATION

During the past several months, as a result of the activities of The American Mining Congress, a great deal of public discussion has been given to the existing danger with regard to the possibility of a failure of the monetary gold reserve. Conventions have been held and addresses made to many commercial and bankers' associations, but one of the finest and most appreciated publicity efforts of the entire campaign up to the present time was the publication by the San Francisco *Chronicle* of two full pages explaining in detail the gold situation and the necessity for protecting the gold reserves of the nation at this time. This publication was made during the early days of the Democratic Convention, and the editor of the *Chronicle* openly appealed to the Democratic platform makers to add a plank pledging that party to the protection of the gold reserve and the encouragement of the gold producers.

VERBOTEN IN ALASKA

Often in the pages of this Journal we have protested against the policy of extreme, radical conservation, a conservation which would have us indefinitely preserve our natural resources without development for the benefit of posterity.

Arnold Bennett says: "The thought of posterity leaves me quite cold." We cannot but feel that he is right to a great extent. Our forefathers may have had posterity well in mind in the adjustment of their political problems, but it is also true that they adjusted them to meet the

exigencies of the then situation. A great deal of editorial paper has been wasted in bemoaning the loss of certain early resources, as, for example, the black walnut timber. Granting that it all could have remained standing until now, its present value could not have been an infinitesimal portion of the value of the cleared land which was surrounded by the sturdy fences of black walnut so "wasted" and the countless dollars which have been taken out of that same land in crops and produce. Similarly we have had a school of conservationists who would have reserved all the water-power of the nation. They reserved thousands and thousands of acres of Western land for oil development for the use of the Navy. Not a foot of drilling has ever been done on this oil land by the Government. It is as foolish to conserve water-power resources by not using them as it would be to pass a law against the use of wind for windmills. Natural economic laws have a way of producing, prior to the exhaustion of a necessary resource, another which replaces it to even greater advantage.

On this subject the New York *Times*, in justly commending Secretary of the Interior Payne for his attitude on Alaska, says:

"Mr. Payne, the Secretary of the Interior, puts his finger on the sore spot of Alaska.

"There are too many things 'reserved.' One almost thinks of 'verboten' in Germany. Conservation in the States is most desirable, but what Alaska needs is more men and women and less governmental regulations.

"Never was a truer word spoken of that region of unbounded resources and potentialities. From the best of motives Alaska has been overconserved and constricted. Her de-

velopment has been fettered lest somebody should get rich in the process. Not thus did the great States of the West grow up. They almost paid a bounty on energy. A free field and free play; and let the pioneer become a 'plutocrat' if he could. They prospered because they invited an active and ambitious population. Alaska has been for years the most beruled, belawed, beregulated of countries. Wealth immense, population scanty, development arrested or straggling. Such is the result of fanatical 'conservation.' Wasn't it Drysdale, in 'Tom Brown at Oxford,' who explained, when caught, in a vinous moment, burying the college plate, that he was 'providing for posterity'?"

THE BOOMERANG

Just how the arguments of "labor leaders" strike the man who is made to suffer direct loss as an indirect result of the Heaven-born right of the union to strike is something worth considering. Of course, we all know how the 85 per cent. feel about it; but when men absolutely uninterested in a quarrel developed between two groups operating in another field of endeavor are forced to face idleness for themselves and short food and fuel supplies for their families, there must be some hesitancy about believing the brave speeches upon which the Federation of Labor is building its "strength." An interesting illustration of what happens under this divine-right rule is found in the iron regions of the North, where, as a direct result of the bituminous strike with the consequent disorganization of the railroad and steamboat systems, iron-ore movements have been reduced to the minimum and coal importation is so slow that thousands of miners will be laid off, possibly for months. The effect will be general and the season is now so far advanced that no amount of Government control or co-operation between transportation lines can change the ultimate result. Mines without coal means miners without work and without coal for domestic use. Miners without work means poverty and physical suffering. Miners without work means lowering production, and lowering production means slowing down of steel production, which means slowing down of building and other constructive industries. This,

in turn, means less work and less wages and more uncertainty and new fields ripe for sedition.

No wonder, then, that Big Bill Haywood expresses his pleasure at the adoption of the slogan "Divine Right to Strike," for it has a sweet sound to a seditionist and does his work as well or better than he could do it for himself.

The loss of the profits upon 15,000,000 tons of iron ore not moved this year is not to be compared with the loss to men and industry at a time when men need more work and more money rather than less of both. Mr. Gompers nullifies his own arguments in the minds of thinking laboring men when he says that the divine right to strike supersedes the God-given right of every man to protect himself and his family from want.

THE OPEN MARKET

Nobody kicked about the "open market" when silver made an altitude record, but when the tailspin began there were loud cries of "Pittman Bill," and the open-market idea lost popularity. Ray Baker, Director of the Mint, was able to make prompt and effective use of that hackneyed old expression, "I told you so," and he had. Some silver men had said rough things about The American Mining Congress for helping to fix the price of silver at \$1 per ounce, but the Pittman Act made a good cover when the market broke.

SHORT HOURS AND COAL PRICES

The National Coal Association has issued a very instructive chart, showing the increase in the cost of producing coal, which result from the short working hours caused by the lack of cars to transport the coal and otherwise.

The public has never before so thoroughly appreciated the fact that coal cannot be stored at the mine, and that coal cars must be available to take it immediately from the mine in order that mining operation may proceed.

The chart referred to shows that if the basic 45-hour week is reduced to a 12-hour week, the cost of production is more than doubled. In other words, it shows that the overhead expense, which must be continually met, is such that continuous production is necessary to insure a reasonably low price for coal. While this is equally true in other lines of business in which it is necessary to operate full time in order to accomplish the cheapest production, it is particularly true with reference to all mining operations, in which the cost of maintenance and upkeep is greater because of the rapid depreciation of mining property.

The chart enforces a striking lesson which it would be well for the public to thoroughly consider. A large number of mines during the last few months have only been able to operate from three to six days per month because of the shortage of cars with which to transport the coal to market. The mine which operates only six days per month must necessarily get a double price for its coal, while the mine operating but three days per month must receive approximately two and one-half times a normal price for its output. The coal-using public should better appreciate this situation and be more willing to lend its assistance to plans by which continuous operation of coal mines may be made possible.

NON-PARTISAN LABOR

The so-called National Labor Party, a distinctly radical wing of the labor movement in America, has seen fit to publicly announce itself as a part of the "Third Party." A circular has been issued by Samuel Gompers, Joseph Valentine, William Green and Matthew Woll in behalf of the American Federation of Labor, summarizing the conclusions of the Federation as to both Republican and Democratic platforms and making comparison with the political demands made by labor. The summary thus published indicates that in the minds of these leaders the Democratic platform seems most "progressive." The Federation, how-

ever, wishes to stand upon the pronouncement contained in the following two paragraphs which close the official analysis:

"The men and women of labor of the United States and her liberty-loving people must judge between the declarations of these parties. The impending campaign and election for President and Vice-President, United States Senators and members of the House of Representatives is upon us, and the citizenship of our country must determine its own course in electing those candidates for freedom, democracy and humanity, and to defeat those who are less friendly or more hostile to these principles.

"Labor of America is not partisan to any political party; it is partisan to principles, the principles of justice and freedom. It undertakes neither to dictate nor control the choice of the workers or the citizenship generally for which party or candidates they should vote, but it would be a palpable dereliction of duty did we fail to place the facts before the voters of our country upon the records of both parties and their respective candidates for public office."

Regardless of all the blunders of the American Federation of Labor, and regardless of the failure of Mr. Gompers and his associates to realize that the right of the public are paramount to the rights of organized labor, it is very evident that what has been believed by thinking business men to be true is here established.

When Mr. Gompers in an unguarded moment allowed himself to utter the pronouncement that the right to strike (no matter what the cost to the nation in starvation, financial loss, disruption and corruption) was the paramount issue and the premier right, Mr. Gompers went a long way toward fixing the status of the American Federation of Labor, and this classification will have to stand.

THE H. C. OF L.

Interpreted in the ordinary acceptance of the recently adopted American phrase, the above headline would indicate that this editorial was for the purpose of discussing the high cost of living. For once, however, the reader is mistaken. A grand jury impaneled by the County Judge at Cleveland, O., has completed

an exhaustive study of the industrial situation, and reports to Justice Kennedy of Cleveland that today it requires twice as long with the same number of men to erect a house as it did in pre-war times. Five years ago 100 carpenters accomplished as much as 200 accomplish today. Bricklayers do not even reach the 50 per cent. efficiency mark, and the same is true of paperhangers, painters and plasterers. Wages have been increased in some cases 200 per cent. General labor costs have increased 400 per cent. The report indicates that there is very little pride in the quality of service performed, and that rentals of dwelling-houses cannot be lowered under the present costs for labor and supplies.

Inasmuch as this jury was composed of free-born citizens, sworn to an official duty with the power of research not possible to any except under an order of court, it is presumed that the findings of the jury are based upon hard and fast facts which may be interesting for labor agitators to read as a matter of self-education.

Taken in conjunction with statements just issued by the Department of Labor, with its well-known tendency to favor union labor, the report of the Cleveland jury is doubly interesting. The Department shows that there were 3314 strikes in 1919, affecting 4,112,507 workers, who lost more than twice as much time as was lost in 1918, or, in fact, during any previous year.

Considering the marked increase in wages over previous years, therefore, the loss to labor alone in the matter of wages was not only twice as much as, but probably 75 per cent. higher than has ever before been known in a single year. To the innocent bystander who suffers from the conditions thus arbitrarily imposed upon him without his consent, although not without his knowledge, the average man begins to wonder whether it would not be a good idea for the thinking laboring men of the United States to give a little collective consideration as to whether or not the H. C. of living is not affected by the H. C. of strikes.

TIME TO STAND PAT

Isn't it about time that all employers took the stand taken by the silver producers and business men of the little mining camp of Neihart, Mont.?

The miners were getting \$5.50 per day. The I. W. W. sent in its agitators, organized the men and demanded \$6 per day and recognition of the I. W. W. "Big Union." Employers refused to deal with the I. W. W. and declared that the camp would remain shut down until the I. W. W. eliminated itself. The merchants of the town organized and refused credit to members of the I. W. W. The 500 miners in the camp and several leasers had to lose out and the operators forced themselves to look at the situation calmly and wait. However, the men enjoyed their Heaven-born rights and struck. It is not understood that the women and children were called upon to vote on the strike question.

LABOR THE NEW CAPITALIST

The Railroad Brotherhoods plan to create a bank primarily to serve their membership, but ultimately to engage in general banking business in Cleveland, capitalizing this bank from their membership fund and large reserve which they have built up from it.

This is a vastly different proposition than for the railroad workers to storm the Government with demands that the roads be turned over to them; that a minimum wage be guaranteed, and that losses be assumed by the Government, as the railroad workers would have us do under the Plumb Plan. For this differs from the Plumb Plan in that the worker's own money is invested in his own enterprise instead of Government funds invested in an enterprise to be run for the benefit of the workers and whose losses for inefficiency are to be absorbed by the Government.

The International Garment Workers' Union will undertake to establish union factories and retail stores in an effort to provide steady work for union members, and with the hope of reducing the prices

of clothing. For this enterprise they have at least one-half million dollars capital, ample for its conduct. There is nothing revolutionary in this; there is nothing Bolshevistic, Communistic or Socialistic. This is but a development on a large scale appropriate to modern business conditions of a basic truth in American economic life, namely, that every laborer is a potential capitalist. It is the kind of enterprise that every thoughtful person would like to see labor engage in. It involves financial responsibility. The difficulty with labor up until now has been that it has insisted on power without responsibility.

A BAD AND A GOOD EXAMPLE

No business organization has a right to invoke the law of supply and demand as a justification for high prices in times of stress and then interfere with the law of supply and demand by cutting off the supply in times of plenty to prevent price reduction.

The American Woolen Co. has based selling prices on replacement costs for four years. Now, when replacement costs for wool are lower than they have been for years, the woolen mills are closed down, thus shutting off supply to keep demand in line with exorbitant prices.

A marked contrast with this policy is shown by the United States Steel Corporation, which has held its prices at the levels established by the war boards—much below the present market prices—and has thereby an immense volume of future orders on its books. The relative wisdom of these two courses of action is apparent. Good-will is a tremendous asset.

THE UNION LABEL

Out in one section of California it is necessary to die and be buried by the union route. This has been decided by Local Union 262 of the United Brotherhood of Carpenters and Joiners of America at San Jose, Cal. Official proposal

for an amendment to the national constitution of the brotherhood just adopted by the San Jose organization reads as follows:

"No member, legal heirs or wife's legal heirs will be entitled to funeral donation unless the deceased is buried in a coffin or casket bearing the label of the United Carpenters and Joiners of America."

Publicity to the above California item was given by United States Senator N. B. Dial of South Carolina, when he, in a public address, quoted the action of the San Jose union a few days since.

There will now be an order, an injunction or something of this sort, to be issued by the unions against the taking of medicine not made by members of the Medicine Makers' Union from cows, rattlesnakes or vegetation under a sun operated under the eight-hour rule, with double pay for overtime.

It may be that the San Jose resolution will not carry beyond the confines of the California town, but it expresses the mental attitude of labor radicals and indicates a tendency which might easily be taken most seriously.

Carrying this theory to its natural conclusion, it might some day be necessary for a man to call a union doctor for himself or his family, secure a union permit to die and force his friends to hire a union embalmer who would use union-made embalming fluid and charge double time for his services between 5 P. M. and 8 A. M. The suggestions contained herein are just about as sensible as the suggestion of the San Jose Carpenters, but "it might be done."

ENGLAND'S RESERVE RATIO AND OURS

Amateur economists, especially those desiring further credit inflation rather than an increase of our gold reserve, have attacked the necessary requirements of our Federal Reserve Bank system of 40 per cent. reserve ratio to liabilities. They have based this attack on the statement and showing of the Bank of England, which furnishes the same

reservoir of credit for the British Empire as the Federal Reserve system does for this country.

When the English bank's ratio declined from 15.42 per cent. to 8.49 per cent. in the week ending June 30 these attacks were renewed with great vigor, our anti-gold economists saying, in short: "Look at Great Britain, the remarkable financial position she maintains; yet she finds it necessary to maintain only a reserve ratio of 8.49 per cent., when we are hampered by a requirement of 40 per cent. What, forsooth, is a reserve for unless it is to be used?"

The first and most obvious argument against this statement is the fact that once a reserve has been used it is no longer a reserve. The Federal Reserve system furnishes a final reservoir of assets which are basic for the entire credit structure of our nation. Let this reservoir be emptied and there is no such reserve. An expended reserve or a distributed reserve is no longer a reserve; it simply ceases to exist.

The second argument against this position is based upon the difference between the methods of computing the reserve ratio in the United States and in Great Britain. The methods of computation are totally different; the basic figures are taken from different sources, and the resultant ratios are of different significance and hence not comparable.

The Bank of England is divided into two departments—the banking department and the issue department. In the issue department is maintained the balance between notes issued and assets applicable against them. These assets always represent 100 per cent. cover for the issued notes. These assets are made up of Government securities and gold. The first item is relatively small, the gold going to make up approximately 90 per cent. of the cover for the issued notes. It is in the banking department alone that their reserve ratio is calculated.

The Bank of England's reserve ratio is calculated on the basis of the ratio between the Bank of England notes on hand in the banking department plus the

gold and silver on hand as opposed to deposit liabilities.

Our Federal Reserve ratio represents the ratio of total cash reserves, gold, silver and legals, as opposed to the combined deposit liabilities and Federal Reserve note liabilities of the banks.

On June 30, therefore, the Bank of England's ratio of reserve to deposit liabilities in the banking department only, which is the way it is calculated there, was 7.89 per cent. But on the same day if to this be added the figures of the issue department and the ratio calculated as we calculate it the ratio of metallic reserve to deposit and note liabilities combined is shown to be 37.81 per cent.

England has long recognized the strategic importance of gold, and never overlooks that importance for a moment. We can well take lesson therefrom, and by increasing our gold production strengthen our credit position.

STANDARDIZATION IN MINING

Charles A. Mitke, chairman of the Metal Division of the American Mining Congress Committee on Standardization of Mining Equipment, has completed a very interesting series of articles, illustrated by charts and drawings, which have been published in the *Engineering and Mining Journal* of various States. These articles have been compiled in book form and issued by the McGraw-Hill Book Co. of New York. There has been some discussion among metal-mining operators as to the practicability of a national standardization movement in behalf of the equipment and methods in metalliferous mining. Operators known for their business sagacity and success as managers have stated recently that to attempt to standardize methods and equipment in metalliferous mines was to attempt the impossible, owing to the widely varying conditions to be found in various States and localities. Disagreement with this attitude is expressed tersely and convincingly in the preface of Mr. Mitke's book, in which he says:

"Great economies in any business of production result from careful and thoughtful attention to details, and mining is no exception to this rule. On the contrary, successful mining is one of the greatest embodiments of the principle. The difference between the careful manager and the careless one is apt to be the difference between profit and loss."

And it is upon this business principle involved that The American Mining Congress is just completing the organization of a concrete national Standardization Committee, a section of which is devoted to the problems connected directly with coal production and another section to the problems connected with metalliferous and petroleum mining. We believe that The Mining Congress has taken up a movement which will bring great credit upon The American Mining Congress, the beneficial effects of which will be felt for all time in the mining industry.

IS HE A RADICAL?

During the International Labor Convention at Montreal last June, the radical wing of the Federation of Labor held a special private conference in the Place Vigor Hotel of that city. The chairman of the conference was Max Hayes of Cleveland, and the principal speaker of the evening was a Mr. Duncan of Seattle, whose name is connected with unsavory history as to labor movements and radicals in more than one section of the country. Mr. Duncan made a very (for him) normal radical speech, requiring considerable revolutionary language. He condemned the Federation of Labor and appealed generally to the rank and file of labor to strike against the Federation of Labor. A Mr. Harroll of the Machinists' Union also popularized himself by a few revolutionary remarks. He also made a very interesting statement—that is, it interested Mr. Harroll, and if generally believed would interest the employers of labor throughout the continent. He claimed to know that President Gompers of the Federation of Labor was a radical, and was certain that the revolutionary plan would appeal to Mr. Gompers. Mr. Harroll made a very clever suggestion, which was that

for the present the radical wing content itself by securing the election of one or more members on the Executive Committee of the American Federation of Labor.

Whether or not Mr. Harroll was correct as to his measure of Mr. Gompers, he was correct as to the cleverness of the method by which the American Federation of Labor can be broken down in morale, and the recent activities of the Federation of Labor indicate that both Mr. Duncan and Mr. Harroll may have been stating openly some things which as members of the inner ring they might already recognize as a partly established fact.

The results of the Federation meeting—called in Canada for the purpose of conducting a house-cleaning in the United States—are a proof that the borers from within are the real menace to the American Federation of Labor. The fact that the I. W. W. and the radical branch of the Federation of Labor are both working for the one Great Cause—the "one big union"—indicates, whether Mr. Gompers and the Labor Hierarchy are pleased with the prospect or not, that there is a dove-tailing of ideas, ideals and plans which will probably ultimately overwhelm the present type of labor leaders and seat such men as Duncan, Harroll, Big Bill Haywood and other choice representatives in the labor movement.

THE GOVERNMENT MACHINE

The New York *Evening Post* has published an interesting and illuminating series of articles by Z. L. Potter, a staff correspondent, whose opportunity for close observation of Government affairs in Washington has peculiarly fitted him for such a task. This campaign on the part of a great newspaper, following the introduction of special legislation looking to the reorganization of the administrative machinery of the Government, is indicative of a rapidly broadening vision on the part of newspaper men who live under the shadow of the Capitol, and whose observations can be credited with

being as nearly non-partisan and unbiased as may be possible to find. Mr. Potter has taken the various phases of administrative developments carefully and chronologically, and has evidently given a great deal of thought to the problems and the solutions which will afford the best results. One significant expression used by Mr. Potter in explaining the difficulties facing those who attempt to reconstruct the administrative policies of the nation's business is contained in the following paragraph, he having first proposed that there be a general readjustment of the salaries not only of executives, but of the specially trained men who must be employed in all departments:

"Can the taxpayers of the United States afford to have a \$10,000-a-year man planning the expenditures of \$7,000,000,000 of their money if a \$25,000-a-year man is available to do so? We shall never get more capable administration of the Government than the capabilities of the men we hire to run it."

The *New York Post*, however, has assumed that Government officials are receiving salaries of \$10,000 a year, while as a matter of fact such salaries are only paid to a very few. The rule is that these scientific men receive less than \$4000 per year, and many high-grade men are working for less than \$3000. The directors of the governmental bureaus receive \$6000. It is not necessary to pay \$25,000 per year, but it is extremely important that highly trained technical men shall receive salaries which cover the necessary cost of living.

Theoretically, every employe is supposed to do, and it becomes his duty to give, the very best service which he can without reference to the salary paid therefor. Practically, however, the incentives which make for the highest efficiency are glaringly absent.

The business men of the United States who have watched with growing concern the failure of the Federal Government to realize the appalling growth of inefficiency in Government administration

will say "Amen" to this suggestion of the *New York Post*, realizing as they do that business conditions of today demand that not only business but the Government must recognize the necessity for readjustment of the salaries paid to all responsible workers, whether they be of the lower ranks or the men who plan and administer the business of corporations or the Government.

Those closely in touch with internal administrative affairs are well aware of the fact that one of the greatest difficulties facing the Government since the signing of the armistice has been the impossibility of holding in line the skilled and trained Government officials and subofficials necessary for the accomplishment of the rapidly increasing administrative duties. Business everywhere is crying for more men and greater efficiency. The Government has been a great business training school, which during the past 18 months has been drained wherever possible to furnish a supply of trained men for responsible positions. This should not be so, as the business of the Government is beyond question the most important business to be performed, in behalf of the nation. No one can blame the trained administrative officer for leaving an underpaid position when a salary two or three times as great is offered him elsewhere.

A frequent contact with scientific men, heads of departments, subheads and those responsible for important subdivisions of Government administration develops the fact that these men who are giving their lives to Government service have been obliged to struggle through the high-cost-of-living period with scarcely no consideration of a serious nature on the part of the Government, while as against that stands an almost staid extravagance practiced and allowed to be practiced in other forms of Government expenditures.

Efficiency in Government administration can never be obtained while Congress follows the present miserly and inconsiderate policy in the employment of its responsible administrative officers and workers.

CO-OPERATION IN TAX ADJUSTMENTS

The American Mining Congress has been actively engaged in service looking to the proper and just application of income tax laws to the mining industry since the year 1913, when the first Federal law was enacted under full constitutional authority.

The Revenue Act of 1913 recognized the theory and equitable practice of depletion, or return of capital by depletion as differentiated from income or profits, although the annual net allowance therefor was limited to 5 per cent. of gross value of the minerals produced. This deduction was manifestly inadequate in the great majority of cases, but the principle, in its result, was not so important with the then relatively low rate of taxation.

The American Mining Congress immediately began a campaign of education to acquaint Congress with the gross injustice of the 5 per cent. limitation. As a result, the 1916 Act carried a far more acceptable provision, which eliminated the percentage restriction and granted a "reasonable allowance," not to exceed the market value of the product removed during the taxable year. The full benefit of this all-important substitution was not realized until 1917, when the income tax rates were raised to an unprecedented level and the hybrid excess profits tax had its now famous inception.

Except for the relief afforded by allowances for depletion, the Revenue Acts of 1917 and 1918 would have placed upon mining operations a burden so great as to have made active continuance virtually impossible. A tax law which fails to identify the peculiarly hazardous and wasting nature of the development and conversion of natural resources confounds all the equities of the so-called "faculty" tax, the tax that is founded on the fair principle of "ability to pay."

The flat-rate income tax is a good tax, relatively. Despite its inherent faults and administrative difficulties, it has withstood for years the many economic

and political buffetings to which it has been subjected not only in the United States, but throughout the world. While it had its real origin in England more than 100 years ago, it is now distinctly an American institution, and is generally accepted as the fairest means of distributing a large part of the burden of supporting government.

The income tax has come to stay, and is practically certain to apply in its present form to the year 1920. That strange device, the excess profits tax, will also be with us for the present year, but it will either be abolished by Congress or so thoroughly revised when made applicable to 1921 as to be relieved almost completely of its present torments. A tax which, apart from its fundamental anomalies, does not lend itself even to a minor degree of administrative practicability cannot long endure in the United States. It more than served its purpose in the sudden emergency, but now must go.

Notwithstanding the lapse of time and the heavy assessments that have been made and paid, the taxes for 1917 are still largely unsettled and many taxpayers are still worried over their final commitments for that year.

Multiplying the difficulty of these one-year adjustments by at least four, we find a mountain of individual and general problems which must be solved by taxpayers before the Treasury Department, problems that, unless the rapidity of settlement experienced in the past can be greatly accelerated, will prove cumulatively harassing, if not economically vicious, for many years to come and invite a constant flow of litigation.

The American Mining Congress, mindful of these enormous difficulties, has established a Tax Division under the direction of a capable and experienced specialist. Assistance will be lent to the taxpayers, or their representatives, when presenting their cases before the authorities in Washington, and through the dissemination of important current information and otherwise the Tax Division will extend its full facilities and services

in the attempt to be of benefit both to the taxpayer and the Bureau of Internal Revenue.

REFUNDING NATIONAL DEBT

It has been recently estimated that some \$5,000,000,000 of war paper still remains as a frozen credit in the hands of the banks of the country. This represents the various forms of war paper that were placed upon the market but have not yet been actually sold. The retention of such a large volume of undigested war paper in the banks is thus consuming some 50 per cent. of the normal potential banking resources of the nation. It is obvious that the first orderly step in any plan which contemplates a contraction of the credit and currency structure depends upon the liquidation of this frozen credit. The reason may well be asked why this war paper has remained since the armistice in the hands of the banks, and a satisfactory reply must take into account that the war paper itself has not measured up to other investments in the competitive bond market. This fact, coupled with the extensive decline in the principal price of Liberty bonds of the various issues, is sufficient evidence for the conclusion that the interest rates provided in the bonds were artificially low.

The Treasury Department has purchased since the armistice over \$1,000,000,000 of war paper at the market price; has computed the amount of gain that this has provided the Government, and has cited the transaction as an operating efficiency. At what expense has the Treasury Department made the profit? At the expense of every patriotic citizen of the United States who purchased the Liberty bonds with every assurance of the Four-Minute Men speaking in behalf of the Government that the face value of the bond would always be realizable, and that the buyer would in no way be forced to assume a loss. The transaction involves the integrity of the Government to make good its promises to its citizens.

While the Government may not have

realized at the time the bonds were being sold that the interest rate was so artificially low as to compel ultimately the reduction of the principal of the bond, it must be realized now, as the facts have already developed. The first obligation of a person in a private transaction with another would be to make good the discrepancy at whatever cost in order that the business integrity of that person might be maintained. This would be regarded in a private transaction as the first consideration, and there can be no line drawn between what is honest in a private transaction and a Government transaction, as the credit possibilities of both depend upon the complete fulfillment of their obligations. In such a case the Government might well consider refunding the entire national debt in the form of bonds exchangeable for those now held, but carrying an honest interest rate. Competent financiers are of the belief that that interest rate would not greatly exceed 5 per cent. in order that the principal of the bonds would be maintained at par. If this were done, the investments in the Government war paper would be on an attractively competitive basis, and the war paper now so greatly congesting the banking system of the country would be rapidly removed. A prerequisite to such a refunding operation would be a stipulation that the holders of present war paper would have a period of three months in which to exchange their present holdings for bonds of the new issue.

It is becoming more evident also that the time period written in the present outstanding bonds is so short as to burden the country's resources during this period of industrial readjustment and recuperation. The time period might well be extended to cover 50 years. A sinking fund should be provided from the earnings of the Government to provide for the retirement of the principal of such an issue.

Upon the elimination of the war paper from the banks of the United States a tremendous increase in the banking resources of the country would be made immediately available for the expansion

of those industries upon which the prosperity of the country depends, especially in the production of essentials and living necessities. The need for further inflation would have completely disappeared, and an orderly process of deflation could be put in operation without in any way interfering with the normal industrial expansion of the country. The country's earning capacity would be greatly increased because of a resultant increase in the physical volume of its natural resources, and with that increased earning power the war debt could be much more rapidly retired.

Under present conditions there is not sufficient capital available to satisfy the requirements of industrial expansion in the country, as is evidenced by the fact that the physical output of resources during 1919 was less than any year since 1916. The present limitation imposed upon the availability of the banking resources of the nation, if allowed to continue, can result only in a continued reduction in the physical output of our resources, which will be reflected in a declining national earning power, thereby postponing the repayment of the public debt.

FINANCIAL REVIEW OF THE MONTH

The promised advancing market which was to follow the political conventions arrived the week following the Democratic nomination, but for a movement which had been predicted and anticipated for more than two months it was a very weak showing, indeed. Prices had gradually worked higher in anticipation of a stronger bull move than actually took place, so that the bulge, which occupied just one week, covered a very narrow range, carrying U. S. Steel up to 95 and Baldwin up to 127. The rails have had a steady advance, which has been somewhat at cross-current with the general market trend.

This advance is due to the advance in railroad rates which has been anticipated from the Interstate Commerce Commission. These advanced rates, announced July 31, amounting to a billion and a half

dollars, will go a long way toward rehabilitating the railroads. If the railroad stocks score any further heavy advances because of these increased rates, the industrial stocks cannot be expected to follow them the whole way, for it is the industrials that will pay the increased freights; granting, however, that these new rates will speedily help railroad service, the ultimate benefit to industrials will be in excess of the cost in freight rates.

Following this bull move the market turned soft, and declines of from 1 to 2 points daily set in with scarcely any visible rally until the market was carried, in a great many cases, to the new lows for the year. U. S. Steel on July 28 touching 87¹/₄. The report of the Steel Corporation received a mixed reception, those who were interested in the bear side of the market receiving it with disfavor. We cannot but feel, however, that with transportation and fuel conditions as they have been for the past three months, the company's showing of business and of future orders is exceptionally good. Pig-iron production for the month of June was at a rate of 5000 tons per day in excess of the May output. Although this shows increasing operation of steel plants, there is a large amount of finished products accumulating in storage yards because of inadequate transportation conditions.

Those who look for much increased activity in the market for the coming six months should bear in mind that the month of June was the lightest business for that month since 1914. The motor stocks, particularly General Motors, have been very weak. General Motors touched a new low at 20¹/₄. Willys-Overland is one of the few which has held up. This is primarily because during its strike last winter a great many of the adverse conditions which are now confronting other manufacturers were discounted in the market price of Willys-Overland stock during February and March.

The tire and rubber stocks have followed the Motors down, U. S. Rubber making one new low after another.

The petroleum stocks, which have

scored substantial gains in the face of the new and favorable governmental conditions in Mexico, declined in harmony with the general market, so that all of these gains were lost and they registered their lows of April and May.

In the long liquidating process of a market which is dependent on strained credit conditions which must endure over a period of many months, it is apparent that in one stock after another all the speculative values will be squeezed out. That is what is happening in the present market. First one stock will register a new low and then another. There will be a time between now and the forward movement, which will set in around the first of the year, when the whole list will be discounted and well bought. It is apparent that the bottom of the present decline has not been reached, however.

It is a favorite practice of brokers to tell their clients of the liquidating value of certain stock; a stock, for example, having a market price of \$95 to \$100 a share is quoted as having assets behind it of \$250 to \$300. In making such predictions it should always be remembered that such liquidating value is dependent on the opportunity for liquidation. If general conditions arise which would make such a liquidation necessary, it is obvious that the opportunity for it would be gone. Such information is a dangerous criterion on which to buy stock. A stock is worth what you pay for it the day you buy it on the market, and the next day it is worth what it is quoted on the boards. Any values due to reserve assets which are well enough known to be a matter of public comment by brokers or by market reports are well enough known by the people who make it their business to buy valuable stock that it is no safe basis on which to make purchases. For those who fear panics, however, it is refreshing to remember that the same brokers who are now telling us of the panic conditions which have followed periods of inflation are the same brokers who a year ago were telling us of the period of extreme prosperity which always followed the destruction created by any great war. It is appar-

ent that we are to have neither of these conditions. Neither will there be huge prosperity, nor will there be the danger of panic. It is impossible to have a sustained bull market in stocks in the face of a steadily declining commodity market. The steadily declining commodity market is the thing the country needs now, and it is getting it even in the face of serious coal shortages and transportation tie-ups.

There was talk no longer than six or eight months ago that there would be an actual shortage of foodstuffs in this country and overseas this coming winter. Our present wheat crop, together with the fact that more than one-third of last year's wheat is still in storage in the elevators and bins, added to the largest corn crop in the history of the world, is reassuring in the face of any absurd statement of dangers of actual want or privation because of lack of sufficient foodstuffs.

Since trading in wheat has been resumed, the price has declined until it is now, for the first time in years, around \$2. Breadstuffs will be both plentiful and cheap during the coming year.

The Treasury Department issued its semi-annual statement for the period ending June 30, 1920. This shows a reduction in the public debt of \$2,250,000,000, more than half of this contraction having been made in Treasury certificates.

As the Government will come into the market for more loans based on these Treasury certificates within the next two months, some of this gain or reduction will be lost. However, the showing is substantial and encouraging for general conditions. The total debt of the United States now stands at \$24,299,000,000.

The same financial advisers who during the declining market of May told us that the Federal Reserve Bank's statement was to be interpreted unfavorably, in that it was no better, during the slight advancing market, in July told us that the Federal Reserve Bank's statement was to be interpreted favorably, in that it was no worse.

When we are inclined to listen to financial advisers who tell us that the prices

of stocks are now scraping bottom, we must remember that our credit resources are also scraping bottom, and will continue to scrape bottom until after the crop movements of the fall, and probably until after the fall elections.

The market is both lower and quieter, and it is apparent that further breaks are not only possible but probable. Any large volume of business is bound to be on the downward scale rather than upward until our process of liquidation is more nearly complete, until European politics are less threatening and until our transportation system can ship a larger percentage of our necessary volume of business.

CONSTRUCTIVE PROGRAM

Plans are being completed for the 23d annual convention of the American Mining Congress in Denver in November. The program now under consideration will be based upon the political and industrial developments of the past few months, and correspondence received by the American Mining Congress from many leading engineers and producers indicates that already great interest attaches to the outline of the proposed activities.

Although no exposition has been publicly announced in connection with the Denver convention, letters are already being received by the American Mining Congress from exhibitors who participated in the St. Louis convention, requesting space at Denver. The fact that there will be only about 7000 feet of available exhibit space has led the officers of the congress to place the matter of an exposition before a special committee now being organized under the direction of Chairmen Roberts and Mitke of the Standardization Committee, and it is expected that the exhibits arranged for will be limited to those of

an educational or scientific character. There may be some exhibits of highly specialized products, and possibly some mining exhibits from Colorado and other States.

It would be impossible at this time to announce the Denver program, but all of the tentative plans thus far developed will be placed before a special advisory program committee, composed of five representatives of the industry, who, in co-operation with the officers of the congress, will suggest the advisability of adopting or discarding the various plans now up for consideration. This committee will be announced next month, and will, we believe, be an assurance that the Denver convention will work up a concrete and constructive standard in behalf of the mining industry such as has never before been attempted. Convention headquarters will be opened in the Albany Hotel, Denver, Col., about August 10, at which time John T. Burns, Assistant Secretary of the American Mining Congress, will locate in Denver, from which point he will travel throughout the West during the promotion of the Denver meeting. Convention communications should be addressed to Mr. Burns at the Denver office.

When the workmen own the workshops;
And the railroad men the rails;
And the grocery clerks the groceries;
And the mail clerks own the mails—
When the preachers own the pulpits;
And the pressmen own the shops;
And the drillers own the oil wells;
And the jails are owned by cops—
When the conductors own the street cars
And each driver owns his bus;
Will you tell us common people—
Whatinell becomes of us?

—Santa Fe "New Mexican."

ST. LAWRENCE RAPIDS POWER DEVELOPMENT

Construction of an international water route from the Great Lakes through the St. Lawrence River to the sea, with attendant development of 6,070,000 theoretical electric horsepower, is being considered by the program committee for discussion at the forthcoming 23d annual convention of The American Mining Congress at Denver. The effect of such development on the nation's coal supply, which at the time of the project's completion will be a subject certainly no less absorbing than it is now, makes the topic one of commanding importance to mine operators, mining engineers and holders of mining securities.

The St. Lawrence Rapids interpose themselves as the only considerable barrier to ocean-going vessels between Lake Ontario and Montreal. Along this stretch of 46 miles of the international border it is proposed to construct a series of locks and power dams which will make Superior, Chicago, Detroit, Duluth, Cleveland, Buffalo and Erie ocean ports and release energy equal to from 10 to 15 per cent. of the total present horse-power development of the United States. Since America will be half owner of the water route and of the hydro-electric power developed, all parts of the country are vitally interested in the proposal.

There is no question as to the feasibility of the project. Engineers are agreed as to that. Even the subject of cost offers little opportunity for debate, for the amount can be closely approximated and it is known not to be prohibitive. There are just two questions to be answered: "Is it needed?" and "Will any one part of the country profit at the expense of the other?" And these two questions have been asked, and must be answered, with respect both to the transportation and the power development aspects of the project. Members of The American Mining Congress are interested in both phases.

Wheat, meat and dairy products, copper, zinc, lead and iron ore, automobiles, rubber goods and innumerable other products of the West, Northwest and North would go either in raw or manufactured form from convenient Lake ports to all parts of the world without transfer, hence more quickly and economically than they do now. But the railroads would lose a tonnage to which they have long been accustomed and the port of New York would suffer to like extent. As against these disadvantages, it will be claimed that the railroads have more business than they can handle and that New York would gain immeasurably as the exporting point for new factories which would be established and existing plants which would increase their capacity because of the comparatively cheap

and never-failing hydro-electric power which would become available. These are the main transportation phases of the question.

But those who go to Denver will be interested primarily in the possibilities of the waterway as they relate to the development of hydro-electric energy. And they will have some interesting figures to study. The fall of the St. Lawrence from Lake Ontario to Montreal is 222 feet at low water. The variation between maximum and minimum flow is scarcely 25 per cent. and the mean annual flow is approximately 241,000 cubic feet per second. The theoretical amount of energy available is 6,070,000 horse-power. If because of losses in head and inefficiencies of generating equipment only 70 per cent. of this energy can be made available, there would then be 4,250,000 horse-power for commercial utilization. Most of this power would go to New York State and New England, but the power of Niagara now consumed in New York would be released for Pennsylvania, and coal now used in New York, New England and Pennsylvania, together with the railroad facilities now required in getting it there, would be released for the rest of the country.

If 4,250,000 horse-power should be utilized continuously, it would produce about 37.3 billion horse-power hours per year, or 27.7 billion kilowatt hours. Large modern power plants consume between two and three pounds of coal per kilowatt hour. Assuming the average steam electric plant consumes two and one-half pounds of coal per kilowatt hour, this proposed utilization of the power of the St. Lawrence Rapids would save 72.2 million tons of coal every year.

The question naturally arises, "Is there a demand within transmission distance of the St. Lawrence for this amount of power?" The United States Geological Survey, which is responsible for the above calculations, answers the question in these words:

"At the present time the installed capacity of prime movers in New England and New York operated by fuel power in manufacturing plants, central station and electric railways is estimated to be about 23,000,000 horse-power. Practically all of New York and New England is within reach of transmission lines from power plants on the St. Lawrence River. It is, therefore, very evident that if all the power in the St. Lawrence were available for use today, there would be a demand for every horse-power developed and the resulting saving in coal would amount to tens of millions of tons annually and New England would have no coal problem."

Estimates of the cost for the whole project range from \$100,000,000 to \$250,000,000—not a

staggering figure in these times for either the Government or private enterprise. If 2,000,000 horse-power could be sold at \$20 per horse-power-year, the revenue would be \$40,000,000 per year. Capitalized at 10 per cent., this amount of income would warrant the investment of \$400,000,000.

Time required for completion of the project would, according to estimates, run from two to five years. Coal, selling now for what formerly would have been considered extortionate prices, will never become as cheap as it once was, and the supply may be exhausted in 25 years. Certainly the demands made upon the mines will be greater five, seven or ten years hence than they are now. But the St. Lawrence River will never go on strike, and the volume of its waters will not be diminished in either 10 or 25 years. It will still be available for shipping eight months out of the year and for hydro-electric energy from January to January, and there are many friends of New York and New England and the railroads who see in the development of the St. Lawrence Rapids an ultimate relief from shipping congestion and coal shortages. Those who view the matter in this light, as well as those who look upon it from the opposite angle, will probably be heard at Denver.

As long ago as 1000 a treaty was made with Great Britain providing for investigation of "the beneficial use of the waters of the St. Lawrence River, between Montreal and Lake Ontario, in the interests of both countries." More or less interest was directed toward the project until the World War halted all industrial development except that connected intimately with military and naval operations. In March, 1910, Senator Irvine L. Lenroot of Wisconsin had incorporated into the Rivers and Harbors Act a provision requesting the International Joint Commission to investigate further and report to the United States and Canada. The cost and feasibility of building locks and dams and of utilizing the water-power available is being investigated by engineers of the two countries, who will report to the Commission in January, 1921. Meanwhile, The American Mining Congress is, along with other interested organizations, invited to formulate its views and present them to the Commission.

CHIEF ENGINEER, BUREAU OF MINES, ON WESTERN TRIP

Geo. O. Rice, Chief Mining Engineer of the Bureau of Mines, left on a trip to visit the western stations of the Bureau and some of the mining centers. While on his way West he will stop for a brief conference at Chicago and Milwaukee with the city officials, to find out about tunnels which may be contemplated, especially under Lake Michigan, with a view to the Bureau's taking up the

study of the construction of such tunnels in conjunction with the caisson disease and ventilation where marsh gas is encountered, as it was several years ago in a Milwaukee tunnel and in a Cleveland tunnel, in the latter of which a disastrous explosion occurred. An inquiry will also be made at these points and at other places as to vehicular tunnels, which has loomed up as an important question on account of the poisonous character of the exhaust gases from automobiles and trucks.

At Denver he will have a conference with Mr. Daniel Harrington, Supervising Engineer of the Bureau, who is carrying on investigations of the ventilation in metal mines, and the prevention of allaying of siliceous dust, the cause of miners' consumption.

At the Salt Lake, Berkeley and Seattle Stations of the Bureau the general question will be taken up regarding the mining investigations for the coming year. Mr. Rice will also visit some of the mines where special problems have been brought to him in the course of the year.

He also stops at Butte to confer with some of the Bureau and other mining engineers there, and then, as he states, he has a very pleasant mission to Yellowstone, where the National Park Service has been developing a small coal mine, and wanted some advice concerning its further development.

Mr. Rice then visits the Minneapolis Station for a meeting with Mr. Juhlén, and from there will go with him to Houghton to attend the American Institute of Mining Engineers' meeting, and hold conference with some of the Bureau mining engineers in the Lake Superior district, where problems of the methods of mining and ventilation are being studied; also the study which has been taken up by Prof. F. W. Sperr of the Houghton School of Mines, who is consulting engineer of the Bureau on ground movements in deep mining.

Mr. Rice will return to Washington about the first of September.

Among other inquiries that he will take up with engineers in the mining regions will be regarding the draft of coal-operating leasing regulations on the public domain and regulations relating to oil shales.

Another question, that of calling the attention of the mining engineers to the possibilities of using liquid oxygen explosives. Mr. Rice recently brought out a Bureau publication on this subject following his visit to Europe, where he observed the use of liquid oxygen explosives in French iron mines in Lorraine. The Germans, who had used the explosive extensively in mining and other operations, as well as military destruction during the war, had introduced it into these French mines, and the French engineers thought so well of it that its use will be continued.



The Sixty-sixth Congress introduced 19,561 *bills and resolutions*—14,840 in the House of Representatives, 4721 in the Senate.

Passed 280 *public laws*.

There were 591 *resolutions* introduced, 196 of which provided for special investigations; 47 of these resolutions were passed and investigations conducted upon every subject from the price of men's collars and shoes to the investigation of the cause of the steel strike.

The American Mining Congress concerns itself with the securing of beneficial legislation for the mining industry, and also with the proper administration by the Departments of the laws after Congress has passed them. Because of this fact it may be of interest to note what the Departments are doing with the more important of the measures of interest to mining which passed the last session.

Water-Power Bill: Public Law 280

The Water-Power Bill, which provides for a Federal Water-Power Commission, composed of the Secretaries of War, Interior and Agriculture, is making progress.

The Commission has perfected its internal organization. It will be sub-divided into engineering, accounting, statistical, regulatory, licensing, legal and operation divisions.

For administrative purposes the country has been divided into five districts, with headquarters as follows: No. 1, Washington; No. 2, St. Paul; No. 3, St. Louis; No. 4, Denver; No. 5, San Francisco. Each of the cities mentioned will be the seat of a branch office of the commission. Applications for permits to develop power in the East, West and South have been filed with the Federal Water-Power Commission, which will be passed on at an early meeting. Because of the increasing cost of fuel

and transportation difficulties it is predicted there will be a rapid development of water-power projects. C. D. Merrill, Chief Engineer of the United States Forestry Service, has been appointed Executive Secretary of the Federal Water-Power Commission. Gen. E. H. Crowder, Judge Advocate General of the United States Army, and Herman Stabler have been appointed to draw up regulations. Lieutenant-Col. A. M. Kelly, Army Engineer Corps, has been appointed Engineer Officer of the Commission.

Leasing Bill: Public Law No. 146

Much activity is being shown in Wyoming and Montana under the provisions of the Leasing Bill. Operating and drilling regulation for oil and gas wells under the law are being administered by the Bureau of Mines, which will furnish copy of regulations upon request. Frederick B. Tough of Colorado, petroleum technologist of the Bureau of Mines, is supervisor of drilling operations.

The Secretary of the Interior recently construed Section 10 of the law as permitting holding of 2560 acres for such lands in the same geologic structure, but not more than three times that area in the same State. This ruling is regarded as important to operators in fields covered by the law in Wyoming and California, because it was previously thought a lessee could not hold more than 2560 acres. This ruling means that corporations or individuals may take up a lot of 7680 acres in one State and then secure a like amount in several other States coming under the law, making a total of 38,400 acres that may be secured.

The Department does not consider "paper locations" to be valid, but insists that the bill as passed is liberal for all claims made in good faith. They define "paper locations" as merely consisting of setting stakes to indicate boundaries and the posting and recording of notices. Practically all public lands having any possible prospective value for oil are covered by such locations. The Department insists that discovery must be the sole basis for the location and validation of mining claims.

Regulations for the leasing of phosphate deposits under this law have been approved by

the Department of the Interior. About 2,500,000 acres of land in Wyoming, Idaho, Utah and Montana have been withdrawn as phosphate lands. The regulations will open these lands to lease in areas not exceeding 2500 acres each. Applications for leases are to be filed with local land officers, which will be sent to Washington for action by the Department. It is expected that the opening up of these lands will very materially increase the fertilizer supply.

Leases have been issued by the Interior Department for 1397 acres of coal land in the Cook Inlet field in Alaska, 565 acres in the Nenana field, and applications for leases of 1080 acres of the Matanuska field, and 2030 acres in the Bering River field. These applications for leases are made under the provisions of the law dealing particularly with Alaska.

The first permit to be issued by the Department under the general Leasing Law was granted on May 18 to the Crowley County Oil Development Co. on 1280 acres in the Pueblo (Col.) land district. The first lease to be issued under the law was granted to James Owen of Denver for 280 acres in Natrona county, Wyoming.

The Interior Department has granted up to August 1 prospecting permits to the following:

F. E. Dunlap, for 160 acres in the Los Angeles (Cal.) district.

J. D. Atwood, for 2500 acres in the Roswell (New Mexico) district.

C. C. Calhoun and Henry R. Harriman, each 2500 acres in the Cheyenne (Wyo.) district.

Rocky Mountain Oil Producing Co., 1920 acres in the Cheyenne (Wyo.) district.

Wilson Hall Bennett, 2500 in the Independence (Cal.) district.

Reno Wyoming Oil Co., 2511 acres in the Lander (Wyo.) district.

F. Grant Keyes, 2550 acres in the Roswell (New Mexico) district.

Weaver W. Randolph, 320 acres in the Vale (Ore.) land district.

Percy H. Stacey, 320 acres in the Vale (Ore.) land district.

James Harvey, 320 acres in the Vale (Ore.) land district.

George Carey, 320 acres in the Vale (Ore.) land district.

Robert D. Lytle, 440 acres in the Vale (Ore.) land district.

Harry H. Waggoner, 280 acres in the Vale (Ore.) land district.

Alfred F. Wells, 640 acres in the Carson City (Nev.) district.

William P. Lakin, 111 acres in the Lewiston (Mont.) district.

Thomas A. Berkin, 200 acres in the Lewiston (Mont.) district.

John R. Devine, 1920 acres.

D. C. Mathis, 1920 acres in the Las Cruces (New Mexico) district.

Cahelo Oil & Gas Co., 2300 acres in the Las Cruces (New Mexico) district.

Little Tom Oil Co., 2528 acres in the Las Cruces (New Mexico) district.

Naomi Parker, 2500 acres in the Las Cruces (New Mexico) district.

Louis E. Bedford, 2500 acres in the Santa Fe (New Mexico) district.

Frank M. Phelps, 2500 acres in the Santa Fe (New Mexico) district.

Mine Experiment Stations: *Public Law No. 21*

The appropriation providing for the establishment of two new experiment stations is having the attention of the Bureau of Mines. Dorsey Lyon, Chief Engineer of the Mining Experiment Stations of the Bureau, recently returned to Washington after making an extended trip to determine the location of these stations. The Secretary of the Interior has approved the location of a lead and zinc station in the Mississippi Valley. The second station will be devoted to non-ferrous metals, and will be located in the Southeast. Mr. Lyon visited Chapel Hill, N. C., Atlanta, Ga., Birmingham, Ala., and Knoxville, Tenn., in one of which the non-metallic station will be established. The lead and zinc station will probably be located at St. Louis, Mo., in conjunction with the station located in Rolla, Missouri.

Coal-Cleaning Plant—*Alaska*

The Navy appropriation bill, which carried an appropriation providing for the establishment of a coal-cleaning plant in conjunction with the mining of coal in Alaska for the Navy, is being cared for through Admiral Peoples of the Bureau of Supplies and Accounts, Navy Department. Secretaries of the Interior Payne and of the Navy, Daniels, arrived in Washington August 2 after an extended trip for the purpose of examining Alaska coal. Secretary Daniels has notified the Navy Department that the Alaska coal is suitable for the Navy use, and that a large supply is available. The Alaskan railway will be completed in about a year. A shaft has been sunk in the Chickaloon mines in the Matanuska field to a depth of 600 feet, and a number of drifts and tunnels have been constructed. It is the belief of the Secretaries who investigated this territory that it will be able to supply a large portion of the Pacific fleet's coal needs, which are estimated at the present time to be about 450,000 tons.

Labor: Women's Bureau—*Public Law No. 259*

The Women's Bureau in the Department of Labor is already functioning. Investigations concerning women in industry are being conducted by this Department in Kansas, New Hampshire, Georgia, Minnesota and Iowa. The Bureau is being established by the expansion of the former division of the Women's Industrial Service during the war. Miss Mary

Anderson of Illinois, who formerly was employed in a shoe factory, is acting director, and the staff at present consists of one industrial supervisor, two industrial assistants, two industrial agents, four special agents, an editor, a statistician and eight clerks. The Bureau has established the following standards for employment of women in industry: Eight-hour day, Saturday half-holiday, one day of rest in seven, $\frac{3}{4}$ hour for meals, ten-minute rest middle of each working period, no employment between 10 P. M. and 6 A. M., same wages as men when doing same work, wages to be established on basis of occupation and not sex, and minimum to cover cost of living for dependents and not merely for the individual, comforts and sanitary provisions, stand or sit at work, safety from injury by machinery, fire, dust, and fumes, first-aid equipment and fire drills, no lifting of heavy weights or operation of devices requiring undue strain, women must not be employed in occupations using poisons which are more injurious to women than to men, such as certain processes in the lead industry, no home work.

RECENT MINING DECISIONS

Mining Claims—Sufficiency of Location Notice

The statute of Washington (Remington Code, Section 7635) requires that when quartz or lode claims are located as forfeited or abandoned property the location notice or certificate must state whether the whole or any part of the new location was located as abandoned property. A location notice that fails to recite that the claim was located as abandoned property is not a compliance with the statute, and is, therefore, invalid and insufficient, and no rights can be acquired thereunder.

Newport Min. Co. v. Bead Lake Gold-Copper Min. Co., — Washington —, 188 Pacific 27, p. 28.

Mining Claims—Certificate of Location—Recording

The purpose of the statute in requiring a certificate of a mining location to be recorded is to impart constructive notice to subsequent locators of the existence of the claim, its location and extent, just as the markings upon the ground are intended to impart actual notice of the same facts. But when persons have actual notice of a mining location, its boundaries and extent, any defects in the recorded certificate are deemed to be immaterial.

Heilman v. Loughrin, — Montana —, 188 Pacific 370.

Mining Shaft—Fencing—Application of Statute.

The statute of Washington (Laws 1860, p. 121; Remington Code, Section 7408) requires that any person or corporation who shall sink

or excavate a shaft, excavation or hole to be used for mining purposes shall, on abandonment, erect and maintain a substantial fence or other safeguard sufficient to securely safeguard against danger of persons or animals falling into any such shaft or excavation. This statute does not apply to a slope or entry having a pitch of about 20 degrees, the outlet of which is protected by a house of timber covered with a heavy wire screen drawn across the face of the slope. There could be no recovery under the statute for the death of a boy who voluntarily entered the mine through a small door in the screen and passed down the slope for a distance of over 300 feet into the mine and was overcome and died from the effects of "black damp."

Dernac v. Pacific Coast Coal Co., — Washington —, 188 Pacific 15.

Mining Claims—Alien's Right

Under the United States mining statutes an alien is not prevented from owning unpatented mining claims, and an alien so owning any such claim may protect his property rights therein in adverse proceedings before the Land Department or in the courts, although he may not acquire title from the United States through such proceedings.

Ginaca v. Peterson, 262 Federal 604, p. 610.

See Altoona Quartz Min. Co. v. Integral Quartz Min. Co., 114 Calif. 100; 45 Pacific 1047.

Mine Foreman—Negligence—Liability of Operator

The statute of Tennessee (Acts 1915, Chapter 166) requires that a mine foreman be employed in every mine; that he must have certain qualifications and be certified by the State Board, and shall perform certain duties to keep the mine safe for the miners. This statute makes the foreman the agent of the owner or operator, and does not relieve such owner or operator from liability under the doctrine of respondent superior to a miner injured through the negligence of such foreman. The statute is not invalid as depriving the mine owner of his property without due process of law in violation of the State and the United States Constitutions. The validity of the act and the liability of the owner are based on the idea that the class of duties to be performed by the mine foreman belongs to the owner or operator and cannot be delegated, and he cannot claim exemption merely because he is somewhat constrained in his choice of a foreman.

Ducktown Sulphur, Copper & Iron Co. v. Galloway, 262 Federal 660, p. 674.

Note: This ruling is directly opposed to the rule established under similar statutes in the States of Illinois, Pennsylvania and West Virginia.

Oil Shale Claims

Oil shale has long been recognized as a valuable mineral deposit and under Section 2319, making all valuable mineral deposits open to exploration and purchase, oil shale lands are subject to location as other mineral lands. The oil shale lands are now classified and listed as mineral lands valuable as a source of petroleum and nitrogen, and this is prima facie evidence of the value of the land so classified for mining purposes.

Oil shale having been recognized by Congress and by the Department as a mineral deposit and a source of petroleum, and having been demonstrated to be a mineral of economic importance, lands valuable on account of such oil shale are subject to valid location and appropriation under the placer mining laws to the same extent and subject to the same provisions and conditions as if valuable on account of oil or gas. The Department holds that entries and applications for patents for oil shale placer claims must be adjudicated by the Land Office in accordance with the same legal provisions and with reference to the same requirements and limitations as are applicable to oil and gas placers.

Reed & Doyle, in re — Land Decisions — (May 10, 1920).

Oil Claims—Permits to Assignees

Section 19 of the Federal act to promote the mining of coal, phosphate, oil and gas (approved February 25, 1920) provides that any person "who on October 1, 1919, was a bona fide occupant or claimant of oil or gas lands under a claim initiated while such lands were not withdrawn from oil or gas location and entry," etc., shall, under certain other conditions, be entitled to prospecting permits upon the terms, conditions and limitations provided for in the act.

The ruling of the Department on this section is to the effect that it is sufficient if the claim was initiated bona fide on or before October 1, 1919. Under the holding and instructions it is not required that the original locator shall have made his location on or before October 1, 1919, and continued to hold the same since that date; but the section is construed to permit qualified assignees since October 1, 1919, to secure preference right permits. No such transference, however, is permitted to hold permits exceeding 2500 acres for such lands in the same geologic structure, or more than three times that area in the same State.

Instructions, Land Department, June —, 1920.

Oil and Gas Leases—Protection of Side Lines—Offset Wells

An oil and gas lease contained the usual covenants for drilling with an agreement to pay one dollar per acre a year rental for land

not drilled upon and "to protect all side lines in case oil is found in paying quantities." By this quoted term the lessee obligated itself to protect the lessor's lands from drainage or threatened drainage by drilling offset wells on the premises if oil was found in paying quantities on any of the adjacent land. This provision imposed upon the lessee the same obligations which the courts universally hold to be upon a lessee in the absence of any such express stipulation. The term "paying quantities" as employed in the lease means that the lessee was required to drill an offset well in case oil was found on adjacent lands near the boundary line of the lessor's land in sufficient quantities to pay a reasonable profit on the whole sum required to be expended, including the cost of drilling, equipping and operating the well.

Pelham Petroleum Co. v. North, — Oklahoma —, 188 Pacific 1069.

Oil and Gas Leases—Casinghead Gas—Gas Wells

An oil and gas lease provided that on the discovery of oil the lessee was to deliver to the lessor in the pipe lines one-eighth of the oil produced. The lessee was to pay \$200 in annual payments on each gas-producing well. The lessor was to have the right to use the premises for ordinary farm purposes, except such parts as might be necessary for mining operations, and to have gas free of cost for use on the premises. "The party of the second part (the lessee) shall have the right to use casinghead gas from the wells of this lease for the purpose of operating said wells."

Casinghead gas is a component part of oil and is not made from dry gas, nor is it a product of dry gas, but it is a product of wet gas, and wet gas exists only with oil. It follows, therefore, that casinghead gas is a component of oil. The lessor under the terms of the lease was not entitled to the payment of \$200 per annum on wells from which the lessee took the casinghead gas for the purpose of operating the wells. The fact that casinghead gas was taken from an oil well would not of itself make such a "gas well" within the provisions of the lease requiring the annual payment of \$200 for each gas well. The lessor was only entitled to one-eighth of the casinghead gas separated from the oil and supplied on the premises in addition to the one-eighth of the oil.

Twin Hills Gasoline Co. v. Bradford Oil Corp., 264 Federal 410.

A. E. Carlton, president of the Golden Cycle Mining & Reduction Co., was a Washington visitor during the month. Mr. Carlton made his headquarters at the offices of the Mining Congress, where his staff is working out taxation matters before the Revenue Department.



One of the most thoughtful and truthful statements of the danger we face as a nation today was made by **Charles Evans Hughes** recently. We quote it without comment:

"We went to war for liberty and democracy, with the result that we have fed the autocrat appetite. And we have seen the war powers which are essential to the preservation of the nation in time of war exercised broadly after the military exigency had passed, and in conditions for which they were never intended, and we may well wonder whether constitutional government heretofore maintained in this Republic could survive another war, even successfully waged."

According to the belief of some of our leaders in industry, pessimism has been with us altogether too long. The time is now here when those who take an optimistic view of conditions in this country should come forward and be heard. Judge **Elbert H. Gary**, chairman of the board of the United States Steel Corporation, just before sailing for a period of rest in Europe, said:

"I am more optimistic regarding the future of the United States than I have been in the last six years. There is no conflict between capital and labor. Each is dependent upon the other. Both recognize this fact. The almost innumerable troubles which have resulted in strikes and often riots and bloodshed during the last year or longer have been between employers and labor union leaders who have not represented or been requested to represent the great majority of workmen. The right to organize is not disputed. If law and order are continuously preserved by the authorities and men and property are protected against lawlessness, all labor questions will be solved voluntarily by

those who are directly interested to the satisfaction of themselves and the general public as well. Labor has never before in any country been paid as high compensation in proportion to the costs of living as it has been paid during the last few years, and is being paid at the present time. While I recognize, and for many months have comprehended, dangers in the general situation, I am more optimistic in regard to the future of this country than I have been at any time before during the last six years."

The agitation by the labor unions for a six-hour day has brought forth the following interesting comment from the editor of *The Wall Street Journal*:

"Labor's demand for adoption of a six-hour day may appeal to those who are born tired. But to the man who wishes a permanent betterment of his condition the proposition should make no appeal. Wages are the result of production. They are paid out of production, therefore, they are measured by it. Adoption of a six-hour day would greatly limit production. Its advocates admit that self-evident truth. At the Industrial Convention, held in Chicago late in May, one speaker said: 'He who expects to draw wages will have to work for them.' Here is a great economic truth so tersely given that all should understand it. Ages ago, when Eden came to an end, it was still better stated: 'In the sweat of thy face shalt thou eat bread.' Wages are the result of production; they depend upon it; they are large or small in proportion as their source, production is large or small. If but little is put into industry but little can come out. If a man wishes to get more, he must earn more, produce more."

Vigorous discussion has arisen due to the recent report in some of the most sensational newspapers of the alleged at-

tempts by Great Britain to corner the world's oil supply. While other countries seem to be temporarily at least taking the lead in foreign development, the danger of this development to America has been somewhat exaggerated, in the opinion of **Thomas A. O'Donnell**, president of the American Petroleum Institute, who says in the *Petroleum Age* for July that:

"Recognizing the indispensability of oil to modern civilization, Great Britain has been alert to assure her future in this respect; and French, Dutch and Japanese policies, though of lesser magnitude, have been inspired by a similar purpose.

"It would be a grave misapprehension to assume that the oil industry of the United States has meanwhile been waiting either in vision or in action. Although the aggressive policies of other nations have but recently claimed the attention of Congress, the leaders of the oil industry long have looked into the future, and while not underestimating the results attending the coalition of diplomacy and business in foreign petroleum ventures, they do not accept the extreme view that Great Britain in its control of so much potential oil territory has captured all the future sources of supply.

"But American-owned companies and prospectors have sought new production in other lands at their own risk and without the aid of Government encouragement or co-operation. Exclusive privileges never have been asked of any foreign government, nor has our own Congress ever been requested to render financial assistance, nor has it given to our nationals a full measure of support in their efforts to secure foreign fields.

"The American oil industry asks only the support of the nation in giving it an equal status, putting it upon an equal footing, with the nationals of other countries in the development of the world's petroleum resources—and it asks this in the interest of the nation.

In further substantiation of this position, Sir Auckland Geddes, British Ambassador to the United States, in the same journal states as follows:

"Seventy per cent. of the oil production of the world comes from your own soil, which in time of emergency can be absolutely controlled by your own Government. Sixteen per cent comes from the soil of Mexico, and of that, American

capital controls three-fourths. In 10 other countries American oil interests have either got secure production or are preparing to develop known fields. In all, the United States controls at present 82 per cent.—at least 82 per cent. of the oil supply of the world; and the alleged monopolist, Great Britain, from the whole British Empire, gets only 2½ per cent. of the world's supply.

"From Persia, where the oil development is under British control, through British capital having been employed, there is 2 per cent. of the world's production, and from the rest, Burma particularly, British capital gets another small fraction, which brings the total amount of oil under British control in time of emergency up to a total of about 5 per cent. Now, these facts are uncontrovertible.

"You may say, 'That is all right as a statement of the present position. But what of the future? Britain has got all the undeveloped territories?' It really isn't so. I see it stated in your press that Britain is controlling the oil supply of Batoum and Baku. We do not own Batoum and Baku. It is true there is a handful of British troops at Batoum—they with some French and Italians—but they are not there representing Britain; they are there on behalf of the Allies.

"Then, I see it said that we are going to control the whole of the oil supply of Mesopotamia and the whole of the oil supply of Palestine. We do not own Mesopotamia; we do not own Palestine. It is true that under the draft treaty of peace with Turkey we are to receive a mandate from Mesopotamia, and that is supposed to mean that we are going to own Mesopotamia, but also under the draft treaty Mesopotamia is made a free and independent country.

"The latest yarn that I see is that we are building a pipe line from Bagdad or Mosul to Haifa on the Mediterranean to bring oil from upper Mesopotamia to the Mediterranean. I wish to state categorically that no such construction work has been undertaken.

"Quite obviously, oil is of great importance to the future, and I would say this, that if I saw any chance of any combination of British companies in securing a monopolistic control of oil, I would be against it.

"Now, England is not striving—Britain is not striving to get a monopolistic control of oil. Her companies are active. I hope they are. Fair competition is no crime, and it will be all for the good of everyone if we have free competition in connection with this vital substance."

H. G. James, whose writings are familiar to all readers of petroleum publications, is further reassuring in the following statement in the same magazine:

"American capital is pouring into Colombia and other north South American countries, and it is doubtful if directly or indirectly English capital has any such investments. Numerous test wells are being drilled by American corporations. Concessions on nearly every acre of public land in some Central American countries are held by Americans.

"A single American oil company has more extensive exploration work under way in some southern countries than all of the combined organizations of Europe. Hundreds of thousands of dollars have been sent into China, Japan, Palestine, Java, Sumatra and the far East by Americans to develop oil. The Standard Oil Co. is largely interested in production in Roumania, Java—in fact, in practically every foreign field.

"Our Government makes no effort to encourage American petroleum development either at home or abroad.

"Further, for nearly a quarter of a century Washington has persistently insisted that oil was nearing its end; that a fixed percentage of the nation's petroleum resources had been used up, and predicting the exhaustion and collapse of the industry. The time has invariably been set at 20 years. Twenty years have passed, and we are producing more oil in a single State now than we did in all States 20 years ago, and we have more oil 'in sight' today than ever before.

"All of this has a direct bearing on the question of British world-control of petroleum. America cannot enter into competition for her rightful place in universal petroleum research with divided ranks, permeated with prejudice and misunderstanding, with England united and with full understanding of her aims and purposes. With American oil interests united and with governmental sympathy and co-operation, no other nation can possibly wrest from Uncle Sam his supremacy in oil."

There is no more important subject confronting the people today than that of taxation. With the growing sentiment in favor of a revision of our revenue laws, it is interesting to note the comment of **Jules S. Bache** before the Broadway Association recently, when he

designated taxation as a "blight" to the business of the country. Mr. Bache said as follows:

"A diagnosis of the blight spread over the business of the United States would show two principal diseases: The tyranny of labor and the tyranny of taxation.

"The first disease has already passed the crisis, and is on the mend. The taxation disease is more serious, because the people at large, being less directly interested, first, fail to realize the situation, and, second, once they do realize it, will be confronted with so many remedies that they will surely become confused, and even paralyzed in endeavoring to discover the correct one. The tax is so burdensome that even the most upright and patriotic see the necessity to employ experts to endeavor to reduce the burden within the construction of the law, while the dishonest and unscrupulous use every means to evade the tax. The declarations heard on all sides that the excess profits tax must go, even though there seems no immediate likelihood of this type of tax being repealed, do not go far enough. The super-tax on incomes must go, and go speedily, or all incentive to increase earnings will be removed. Possibly other and better methods may be discovered, but for the moment nothing seems to recommend itself as well as the commodity or gross sales tax. We must raise \$4,000,000,000 annually during the next few years. How can we raise four billions and not paralyze industry? To raise it under the present methods means the continuation both of the excess profits tax and of the insufferable super-tax. It means that great capitalists will continue to withdraw their money from business enterprises and invest it in municipal and other tax-exempt bonds, leaving the burden of enterprise on those of moderate means and on the active business element of the country. Progressive business organization consists of three parts: Labor, management and capital; all being interdependent each on the other. If present conditions continue, I fear that we will have plenty of labor and plenty of management, but that capital will disappear, and while I am not of those who recommend that capital should strike, it will be forced to strike for lack of protection. Three hundred or four hundred thousand investors have disappeared. Such of them as still have income exceeding their annual expenditures seek the umbrella against taxation of the municipal investment. When well secured 8 per cent. investments cannot be sold this situation becomes acute. That situation confronts us today. I do not anticipate relying on-

tirely upon the commodity tax for the raising of all the moneys necessary for the maintenance of our Government. Nor do I think it would be fair to do so. There should be a normal, and even a substantial, income tax. But I believe that with a minimum sales tax, if strictly levied on all transactions, the income tax would never need to go over 5 per cent."

Senator Harding in an interview outlined in *Old Colony Magazine* said:

"America has no problem transcending in importance the securing of industrial peace and the resumption of production. No man can ever be made to work against his will in this country, and the student of modern developments in industry who thinks to destroy unionism and collective bargaining little understands the new order. It is just as certain as anything can be that a new proportion has come in the division of the profits of production, and that labor's share will never grow less. But unionism, which has been a liberating force, must not be permitted to enslave. Collective strength has wrought great progress, but it must not assume dictation."

Forty-nine New York manufacturers operating in 40 different lines of industry made public a statement concerning the increased efficiency of labor within the past few months.

"This testimony is submitted to the Industrial Bureau of the Merchants' Association by the same manufacturers who reported in September, 1919, that in general labor was not more than 70 per cent. efficient, judged by normal standards.

"Although production per man per hour has not yet reached normal, it has been gradually improving since last September, especially during the last four or five months, and a spirit of optimism regarding the productivity of labor is now prevalent among manufacturers.

"It is not possible to measure the increase in output on a percentage basis except in special cases, and it cannot be said that the increase is as yet remarkable, but the testimony is unmistakable that a change for the better is now well under way.

"Of the 49 manufacturers who reported, 23 say that the efficiency of their employees has increased noticeably since last September; five say that although they have seen no measurable increase, they sense a better spirit among their employees; 17 say that they have observed no change, and three say that they have noted a decrease.

One manufacturer reports that it is his observation that labor efficiency is increasing in many lines of industry, although he has available no specific data for his own plant.

"The reasons given for the present tendency toward increased productivity per man are varied, but those most frequently cited are the increase in the number of applicants for positions and the change from timework to piecework."

In a most comprehensive analysis of the Railroad Wage Award in *The Wall Street Journal* for Monday, July 26, the following basic conclusions are arrived at:

"Somewhere around 1,800,000 workers have been fighting with all the skill they could command to get all the money they could from 105,000,000 citizens of this country, and the amount has been, at least presently, determined by the legal representatives of the 105,000,000 people.

"The difficulties of the Railway Labor Board should not be minimized. The award they have made is readily subject to the easy criticism of those who not only could have done no better, but probably would have done much worse. Scientifically analyzed it is a pretty poor award, but statistically considered the wonder is that it is not much worse.

"You cannot readily adjust the physical appetites and psychological apprehensions of 1,800,000 employees to the scientific value of a dollar that fluctuates in response to the productive and purchasing vagaries of a nation. It is no criticism of the labor of the Board that made this award to say that it is a bad award; in fact, nothing but a bad award could be made now.

"The statistics of railway labor have been so badly kept and so variously recorded that comparative statements are not much better than guess-work. In this the Labor Board is quite as much at a disadvantage as are the rest of us. The best the Board, as well as we, can do is to make the best guess that can be made from the disjointed and unrelated facts that exist.

"The statistical assertion that the 'cost of living,' so called, has advanced 94.8 per cent. since 1914, may or may not be so, but there is no competent evidence to support it.

"If the wages for 1919 had been equalized with the increases of living costs from 1915, on the most liberal basis claimed by the men, and which is neither statistically nor economically defensible, it

would only have required an advance totaling \$43,773,474. This, however, is arrived at by deducting from the total deficit from such equalization the total excess. Of course, at this stage of the game nobody expects reduction of wages, and ignoring entirely the excess, the total of deficits only is about \$135,000,000. So that, at least, the men have received almost \$400,000,000 more than would equalize them with what they erroneously claim is the advance in cost of living."

The Chicago *Tribune* has published the following copyright cablegram. This is as pertinent a commentary on the conditions in idealistic Russia and realistic America as any 1000-word article could possibly cover:

"On the bureau of Emma Goldman's room in the Hotel Astoria at Petrograd, draped over a corner of the picture of her niece, is the American flag. Emma Goldman, deported from America as an anarchist, makes no apologies for this flag.

"The communist leaders living at the hotel josh her a little about it, but Emma says:

"That's the flag of my niece's country. I'm going back there some day, for I love America as I love no other land."

"Emma Goldman is sick of Bolshevik Russia. When I called on her in Petrograd she asked: 'What do you think of it?'

"You have been here six weeks. How do you feel about it?'

"It is rotten," I replied. 'It's so rotten I'm sick of it.'

"You're right, it is rotten," she said. 'But it is what we should have expected. We always knew the Marxian theory was impossible, a breeder of tyranny. We blinded ourselves to its faults in America because we believed it might accomplish something.'

"I've been here four months now, and I've seen what it has accomplished. There is no health in it. The state of socialism or state of capitalism—call it what you will—has done for Russia what it will do for every country. It has taken away even the little freedom the man has under individual capitalism and has made him entirely subject to the whims of a bureaucracy which excuses its tyranny on the ground it all is done for the welfare of the workers.'

MORE FREEDOM IN UNITED STATES.

"Where did you find the greater degree of freedom, Miss Goldman?" I asked. 'In the United States or in Communist Russia?'

"Any form of government is bad

enough,' she replied, 'but between this and individual capitalism, the choice lies with the latter. At least the individual has a chance to express his individuality.'

"Of all the deportees who entered Russia with Miss Goldman, only one or two have accepted the doctrines of communism. Miss Goldman, Berkman and Novikov, the leaders of the group, refused to work with the Government in any way except purely humanitarian labor.

EXPECTS TO GO TO JAIL.

"We are studying conditions in Russia," said Miss Goldman at another time. 'We want to make a trip through the country districts and talk with the peasants. Then we will be ready to speak. We probably will go to jail when we start criticising, but that doesn't matter. We've been in jail before. We cannot be true to our principles and not speak.'

"Miss Goldman and Novikov refused places in the reviewing stand at the May Day procession, nor will they accept places at any Government meeting.

EMMA "HIT HARD."

"I spent much of my week in Petrograd with them. When I was ready to leave she said to me: 'Be careful what you write, if you want to return to Russia. If you don't, then hit out from the shoulder and hit hard. You may be called an agent of the capitalistic class by the people in America who don't understand.'

"If you are, tell them we have been here four months and now we know. We have investigated the factories, homes and institutions as no newspaper man can be permitted to investigate them, and we've found them bad. I know from my conversation with you you have gotten at the heart of the matter. It's up to you to tell the American people, and tell them straight.'

"And that is what I intend to do. Emma Goldman has found, as I did, that the best cure for Bolshevikism is a trip to Bolshevik Russia. She told me to hit out straight from the shoulder. Well, as an American, I'll let that little flag of Emma's bureau hit for me."

Law and Labor, on its cover for July, says:

"The widest latitude should be offered to workers to improve their condition by organization, but in the extension of their privileges the reasonable right of others guaranteed to all alike must not be subverted if the spirit of the Government is to be preserved. These privileges of the workers will be modified as time passes so as to enlarge the opportunities to improve their condition, but it can only be

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OFFICERS:

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Paul Wooton, News Editor.
New York Office: 507 Fifth Ave. Tel., Murray
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done by acquiring the confidence of the general public that the changes are in the interest of the common good and that the workers through their unions can be trusted to exercise them equitably by lawful means and not through force or violence or similar measures. The trend of public sentiment is and has been to increase the rights and privileges of the workers. * * * But it has not reached that point where those things can be brought about by the use of force or its equivalent, which would be destructive of all rights and would make insecure the very rights which are sought to be obtained thereby. These rights and privileges cannot be extended so as to constitute an arbitrary domination of the reasonable rights of others or so as to be subversive of the Government itself or so as to be contrary to the public interests."

The *Mining Review* says that the Plumb plan boasters and the others who want somebody besides the owners to own the railroads should look up the facts and see who does own the railroads. More than 1,000,000 people own \$10,000,000,000 worth of railroad stocks and bonds. Life insurance companies, with 53,000,000 policy holders, own nearly \$2,000,000,000. Savings banks, with 10,000,000 depositors, own \$847,000,000. Other insurance companies than life own \$650,000,000. Various institutions, benevolent and otherwise, own \$350,000,000. Trust companies and State and national banks own \$850,000,000 worth of these railroad securities. If the people do not own the railroads now, they never will.

ADOPTS INDUSTRIAL PLAN

Announcement that plans were in contemplation under which employees of the Federal Electric Co. would have a voice in the management of the company was made by John F. Gilchrist, president, in an address delivered on June 20 at a housewarming at the concern's new plant, Eighth-seventh and State streets, Chicago.

"We want our employees to feel that their efforts are being appreciated," declared Mr. Gilchrist. "We cannot give a definite outline at present of what the plan will be, but it will be in conformity with some of the new ideas of employees' representation."

Mr. Gilchrist told the employees that they could purchase stock in the company at almost any terms convenient to themselves, and said he was very pleased to observe that approximately 40 per cent. of the employees were already stockholders.

More than a thousand persons were guests at the housewarming, which was celebrated by dancing, baseball games, field events, vaudeville, aeroplane ascensions and a luncheon.

ROLLA SCHOOL OF MINES

HAS NEW DIRECTOR

At a recent meeting of the Board of Curators of the University of Missouri, Dr. Charles H. Fulton was appointed Director of the School of Mines and Metallurgy, a division of the University of Missouri located at Rolla, Mo. Professor Fulton has been head of the department of metallurgy at Case School of Applied Science, Cleveland, O. He is a graduate of the School of Mines of Columbia University, New York, and was formerly president of the School of Mines, Black Hills, S. D. He has been head of the department of metallurgy at Case School of Applied Science for the past 10 years. Dr. Fulton was appointed to succeed Prof. A. L. McKee, director of the School of Mines and Metallurgy at Rolla, who recently retired on a Carnegie pension.

MINING AND PETROLEUM DIGEST

Vanadium Development

The engineers of the Vanadium Corporation of America have issued the following announcement through the pages of *The Wall Street Journal* concerning the recent developments on their properties:

"Engineers of Vanadium Corporation of America have discovered large ore deposits on the South American properties, which, it is estimated, at present rate of consumption can supply ore indefinitely. Up to the present time known ore deposits on properties were given a life of approximately 20 years, at rate at which ore was being extracted.

"Merrill G. Baker, vice-president, returned from an inspection of properties two weeks ago, and at directors' meeting last Wednesday made known to board the discovery of new deposits.

"No detailed estimate is obtainable from officials of company as to value or amount of ore bodies which have been discovered.

"J. Leonard Replogle is to sail today on the *Mauretania* for England, and it is believed he will make arrangements for allotment of a larger amount of vanadium to Europe."

Asbestos

The increased use of asbestos as an industrial mineral in the production both of fireproof fabric material and covering for steam pipes has caused such an increased use of this interesting mineral product as to cause great increase in price and diminution of stock on hand.

But says the *Mountain States Mineral Age* in a recent issue:

"Just when the supply of raw asbestos was running low and manufacturers and users of that well-nigh indispensable fireproof article were beginning to work about the future supply, Mother Earth came across with an abundant supply in new localities.

"Arizona and China are separated by thousands of miles; nevertheless they figure in the latest asbestos news.

"Out in Apache county, Arizona, an asbestos claim has been located. The deposit is said to be extensive, having been traced a distance of more than 20 miles. Vein exposures are so prominent that, according to reports, one can, without the aid of miners' tools, pick up a ton or more of crude asbestos that has broken down from the exposures. Material from the deposits examined at the United

States Bureau of Mines shows it to be strong, flexible and silky. It occurs in cross fiber veins with a fiber length of from one to one and a quarter inches, while fiber two and a half inches has been reported.

"The deposit, however, occurs on Indian reservation, and unfortunately the present law does not permit the development of asbestos deposits on unallotted Indian lands. The Commissioner of Indian Affairs, through the Secretary of the Interior, has recommended that authority be granted to develop such lands for the purpose of mining asbestos, coal, oil and gas, as well as metalliferous minerals.

"The American consul at Chungking, China, reports that asbestos has been found in various parts of the wealthy province of Su-Chuan, particularly in the district of Yachow, the Chienchang Valley and the mountains around Tachien-lu. The asbestos was found by the people who were searching the mountains for fuel and the medical roots. Claims have been located and specimens sent out for examination."

Further reference to these Arizona asbestos developments is made in the magazine *Asbestos*, published in Philadelphia, which states as follows:

"This district is in Arizona, either on the Salt River, which fills the well-known Roosevelt Reservoir, or on its tributaries or in the Sierra Ancha, the dumps of the latter workings being visible to the traveler from the famous Apache Trail connecting Globe and Phoenix.

"The mining camps are isolated, and men and beasts are very often thrown on their own resources when traveling to and fro between Globe and the camps.

"Stretches of so-called 'desert' of many miles have to be traversed and, while during several months of the year, when rainfall is abundant, this 'desert' is rather more an enchanted garden than anything else, human habitations are few and far between, and woe befalls the inexperienced traveler who loses his trail and goes into what seems to be an unlimited wilderness of cactus growth of gigantic dimensions, of thorny bushes and sun-baked mesa."

Asbestos is one of the minerals which was omitted from prospective development in Indian land by the passage of the law a year ago permitting mining locations and development upon Indian land.

An attempt to remedy the situation has been made by Representative Hayden of Arizona in the introduction in Congress of a measure to permit the filing for development of non-metalliferous minerals on Indian land. It is expected that this bill will have attention early in the next session of Congress.

Financing a Prospect

It has been a well-recognized complaint of mining prospectors and small developers for years that they had had difficulty in convincing capital of the value of their holdings and the large possible profits in their undertaking. What a prospector should offer and what he should expect in return is well set forth in the *Magazine of Wall Street*:

"A man from one of our Western mining States came to my office the other day and said he had a wonderful opportunity to offer any of my clients who would give him a little financial assistance. He was positive that his mine would become a big producer, and all he needed was about \$25,000 to make the demonstration. To the man who would put up his money for development purposes, the owner of the property offered terms that he considered almost munificent.

"He offered to 'let me in' on this unattractive speculation by offering to any of my friends an opportunity to buy 50,000 shares of the stock of a mining corporation capitalized for \$2,000,000, divided into 2,000,000 shares of par value of \$1, all for \$25,000 cash!

"Such an offer does not constitute a square deal. For the vendor it is a clear case of 'heads I win and tails you lose.' Any contract that involves the sale or development of a mining property, the value of which is speculative, should offer to buyer and seller opportunity to share in possible profits, in proportion to the risk that each assumes, so far as these risks may be determined. The general arrangement that is usually most satisfactory in connection with the sale of a mining prospect, or partly developed mine, is the lease with option to purchase, usually referred to as a 'bond and lease.'

"To illustrate the application of this form of contract, let us use the case of the old prospector who demands \$50,000 cash for his claim. A prospective buyer will not consider paying \$50,000 for a property unless he thinks there is a fair chance to get his money back, together with a profit commensurable with the risk. If the risk is great, his possible profit should be great in proportion.

"The first step in the negotiations would no doubt be a demand on the part of the prospective buyer for an option to purchase for, say, 30 or 60 days, or whatever period is necessary to make an examination of the property

for the purpose of deciding what risks, if any, he is justified in assuming.

"Under ordinary circumstances, a decision to purchase for cash would be made only in payable ore in sight to yield a net income sufficient to return the \$50,000 purchase price, together with a reasonable profit. He will retain the privilege of either buying the property for the purchase price demanded, within a certain time limit, say, two or three years if he can make the mine worth the money within that time, or forfeiting his lease, and quitting. The option privilege in such a case is usually contingent upon the faithful performance of the covenants of the leasing agreement.

"Such an arrangement is fair to both parties at interest. The vendor eventually gets his price if the mine is worth it. In addition, he receives a royalty on the ore shipped under the agreement of lease. He assumes no risk of loss."

Copper

The *Annalist* has the following to say of the copper situation, with regard to the surplus and with regard to present and future demand:

"In the United States there is also a heavy underlying demand for copper, but circumstances are such that it does not make itself manifest.

"Electrical equipment companies are making extensive plans for expansion of their business, and by the same token there should be an expansion in the buying of copper.

"In the first nine months of 1919 Japan took about 27,000 tons of copper. It appears now that the buying was in part speculative and in part based on the greatly stimulated industrial needs of the empire.

"The financial situation in Japan at the moment is such that no further buying of copper may be expected for a long time.

"At present production is on a curtailed basis. This plan was adopted last year as a step in meeting the condition brought about by overproduction. Many mines were cut down to less than 50 per cent. of capacity. At present the copper companies are producing on a basis of about 60 per cent. of capacity, and there will probably be no change in this until later in the year.

"Considering present costs, the selling price of the metal at 19 cents a pound is low. There is not any very wide margin of profit at this level. The average cost of production is probably in the neighborhood of 16 cents a pound, or an increase of from 75 to 80 per cent. over the figures of 1914. It is plain that the selling price is so close to production costs that few mines could afford to sell the metal at a figure lower than that now prevailing, and it is in line with the facts that an advance in price should be looked for before the end of this year, provided the extensive purchasing which is predicted comes to pass.

"It is not too much to say that, as compared

with this time a year ago, there has been an improvement of 100 per cent. in the copper industry. The copper producers have been working back to a basis upon which can be built an era of real prosperity.

"For one thing the copper surplus is a thing of the past. During nearly all of last year it hung over the industry as a threat against producer and consumer, but gradually the excess has been absorbed, and the surplus which now exists is not far above the normal quantity of copper that is always in play as a necessary adjunct to the carrying on of the industry.

"Although buying recently has been light, the big producers are holding firmly for 19 cents a pound as compared with a price of slightly above 14 cents, which ruled at one time last year.

"The liquidation of copper has been extensive the world over, and it may truthfully be said that in many countries the shelves are swept clean. Even in the United States there is no excess of copper in the hands of manufacturers.

"Naturally, one of the chief difficulties in connection with the purchase of the metal by Austria and Germany is the depreciated condition of the exchange as related to the two countries. This is not going to correct itself, perhaps, for years, and it is, therefore, necessary that some credit arrangement be made if any large amount of metal is to be taken by the Central Powers.

"The plan under which France is receiving copper from this country is a working agreement of great importance both to France and the copper producers here. In substance, it provides for a revolving credit which can be extended to a reasonable time. The French manufacturer gets his copper and sells his manufactured goods, obtaining thereby the funds to pay for the copper. The payments are guaranteed by several of the leading French banks.

"This plan was undertaken only recently, and in its first stages called for the organization of a Copper Finance Corporation. As it is now working out, the entire matter is in the hands of the Copper Export Association, an organization formed early last year to act for the American producers of copper in the foreign markets. It is expected that France in the course of two years, during which the agreement will run, will take about 200,000 tons of copper. An identical or similar plan may be worked out for application to Italy and some of the other countries which are short of copper, and in this way a big field will be opened up for the export of copper.

"That Europe will need large amounts of copper is indicated by the plans which are being made for the application of electricity to railroad and industrial enterprises."

Mining in New Mexico

The *Southwestern Magazine*, which has recently enlarged activities and has become a semi-technical journal, has this to say of renewed mining development in the Silver City district of New Mexico:

"The old Black Hawk mining district, New Mexico, is known wherever mining talk is indulged in as one of the famous silver producers of the early days. It might be said here that the Central, Hanover and Santa Rita mining districts join together what is generally regarded by mining experts as the largest section of mineralized country in any part of the United States. The great bodies of low-grade copper are occasionally pocketed with high-grade copper, gold and silver. Native copper in sheets, several nuggets of gold and some good silver values are taken out once in a while in the several mines of this district. The whole district shows high mineralization in these three metals. In the Hanover district much high-grade lead and zinc are found. The town of Black Hawk, as it is named, consists of 24 families or more, and is an ideal place to live. Most of the local officials have their residence on the property."

This is of particular interest, in view of the proposed new chapter of The American Mining Congress which is to be organized in New Mexico.

The view of this paper, published so close to the border, of the Mexican situation is entitled to serious consideration. It makes this appeal for recognition of the present Government in Mexico, which is apparently more friendly and more determined to protect American interests than any which has been in existence there for some time.

"The only group of men that have ever been friendly in truth to the United States are now in power in Mexico. Give them a chance. Steadily throughout the great war, General Pablo Gonzales was a consistent friend of this country. P. Elias Calles, while Governor of Sonora, and since that time, has proved himself a square, open and aboveboard friend. Adolfo de la Huerta has repeatedly shown his admiration and good-will for us. Give them a chance. If there is to be any hope for Mexico in the next decade, these men will provide it. If they fail, there is absolutely no other group of men able enough to get anywhere. They have rebuked Villa and his lawless friends, and others of the same caliber. They have, in so far as they have gone, set their houses in neat array, and above all have offered us the only real assurance of protection along the border we have had since Porfirio Diaz went out of power. The record of

Mexico is one long list of corruption, assassination and misrule. The group at the head of affairs now are apparently honest and able to give some sort of stable government to the ignorant and handit-overrun people. Give them a chance. As soon as at all consistent the United States Government should recognize the new Government and give it every aid possible under the rules of international diplomacy."

Oil

The danger of over-capitalization and over-confidence, in short, the danger of spreading the butter of your possible capital too thin on the bread of your prospective business, is shown in the *Magazine of Wall Street* in the following:

"The overwhelming desire of even conscientious oil operators to attain super-riches and become super-oil kings is the rock on which many a promising oil ship founders.

"The reference is not to the many fraudulent oil propositions on the market. It is to the well-intentioned oil companies owning fair-sized leases located in good fields, whose officers and stockholders begin with every honest intention, but become the victims of over-confidence and the 'oil king' epidemic.

"These companies start right. Their capital is small—so is the acreage. They can either drill a well and sell the oil produced or wait until the development of the field reaches their lease and sell out at a handsome profit. In either case, those interested reap small fortunes and the company itself, having a reserve in its treasury, can look around for another opportunity.

"As soon as the new stock has been sold, tripling, as like as not, the company's capitalization, the frenzied expansion program is set in motion. New leases, more leases, and still more leases are bought—and at almost any price. Then come the plans for pipe lines and refineries.

"But with all this lease buying and pipe line construction and refinery construction, there has been made no material progress in the essential department, which is drilling for oil. Worst of all, Eastern interests are beginning to demand a financial statement.

"That is the beginning of the end. The report has to be prepared. It shows immense leasehold acreage, purchased at inflated values. It shows a large capitalization, money expended for equipment of problematical value, no cash in the treasury and only the original wells. Quite enough, in other words, to put an end to the sponsors' dreams.

"There follows a period of stagnation, in which the stockholders rush to sell the stock they hold, only to find that the bottom has dropped out of the market. And the receiver does the rest.

"All this because a small company, with

every prospect of success, yields to wild fancies and undertakes to triple its size overnight."

Frequent reference is made to valuable patented processes which are withheld from the market because of the necessity of disposing of less valuable patents and the right under them prior to the promotion of the new one. Whenever this is done to the detriment of the public interests the patent laws in their true purpose are being perverted. Particularly as this applies to the oil business, which has a certain necessity for increased development and increased efficiency in the production of petroleum products. If there be any foundation in fact for the editorial comment in the *Oil News* for July 20, it surely offers a grave problem to the consumer of petroleum products in this country:

"We have become so familiar with the laborious process of 'cracking' petroleum oils by high temperatures and pressures that we have forgotten that a simpler and safer method of breaking down high-boiling oils into lower boiling oils has been known since 1877. In the cracking process there is always a deposition of coke on the inner walls of the heating element, so that the tensile strength of the steel becomes problematical. The oil vapors at high temperatures ignite spontaneously when they escape through leaks in the still.

"The Friedel and Crafts English patent of 1877 utilized anhydrous aluminum chloride to make good heavy oils and to convert the less valuable portions of the crude into gasoline. McAfee in 1915 further developed the process. He found that with proper control of the vapors leaving the distilling system and entering the final condenser, and with sufficient time given the aluminum chloride, high-boiling oils can be completely broken down into lower boiling oils, and no matter how unsaturated the high-boiling hydrocarbons may be, the low-boiling oils produced therefrom are sweet smelling water-white and saturated and need no refining with sulphuric acid. The reaction gives little gas and only about the right amount of carbon to allow production of saturated products. The carbon is deposited, not in the form of a hard baked-on carbon, but as a granular coky mass, easily removed from the still.

"The process has not been a commercial success because the aluminum chloride is enmeshed in the mass of coke in the still, and until recently could not be cheaply regenerated.

"About a year ago an inexpensive method of recovering the aluminum chloride was brought to the attention of a large oil company which tested the method thoroughly and pronounced it successful.

"The question arises as to why this process

is not now in commercial use. The answer probably is that this company will not put this process into practice until it has succeeded in contracting with sufficient other companies who wish to use its present cracking process so that the royalties thus received will reimburse it for scrapping its present cracking equipment.

"It is difficult to see how the patent laws can safely be changed to penalize the non-use of processes, but it does seem regrettable that such a valuable process is not put to work serving the public."

One of the interesting oil propositions which have been brought to this office recently was one in which an intricate form of divining rod was used for the location of the supposed oil deposit. Of such method of discovery the United States Geological Survey has the following to say in a series of warnings issued to prospective oil investors:

"Even in a region that is known to be oil bearing and in areas having the most promising geologic conditions a positive statement that oil in paying quantity is sure to be found in certain areas is not justifiable.

"In spite of all these facts some men who call themselves 'diviners,' 'oil finders,' 'oil witches,' and other names suggestive of unusual powers, pretend to be able, with or without the assistance of instruments, to detect unfailingly the presence of oil in paying quantity. Nearly all the methods employed by these men are based upon superstition or upon some supposed supernatural practice, just as were the methods of the old-time alchemists, who claimed the power to change lead, iron and other base metals to gold.

"Some of the 'oil witches' simply use a forked stick, like the peach-tree twig or the hazel wand of the 'water witches.' Others have elaborate instruments, fitted with magnets and coils, supposed to work through 'magnetism,' or provided with parts made of platinum, gold, silver, copper, lead, iron or some other metal, supposed to work through 'affinity of metals.' These men are usually ready to prove the correctness of their guesses with somebody else's money, but there is hardly a record of an 'oil witch' risking his own money on his 'certain knowledge,' and of the thousands of devices tested not one has proved to be of the slightest value as a means of finding oil.

"Now and then, of course, oil is struck at a place chosen by the use of one of these devices, for in a region where oil may exist occasional success in finding it by any means is inevitable. A great many of the best oil fields in the United States were found by blind, random drilling, with no attempted guidance, either scientific or supernatural. As one sagacious old driller remarked, 'Even a blind pig rooting

for nuts is bound to find some if there are plenty of them and he hunts long enough."

The Survey further states, with regard to the size of individual oil pools and the probable location and migration of oil, as follows:

"Most of the wells drilled within the limits of an oil pool yield enough oil to make them paying investments.

"Pools vary greatly both in size and in yield. Some are so small that only an acre or two of land is productive. Others may be as much as 25 miles long and 5 miles broad, although large pools include barren or dry spots.

"The average pool is probably not more than 2 or 3 miles long and a mile to a mile and a half wide. A small pool may produce not more than 4000 to 5000 barrels of oil. If it yielded less, it would hardly be dignified with the name of pool. On the other hand, the output of a large pool is measured in millions of barrels.

"For a period in 1916 the Cushing field of Oklahoma yielded more than 2,000,000 barrels a month, and some single wells in other countries have yielded between 150,000 and 200,000 barrels a day, although the largest well in the United States produced less than 100,000 barrels a day.

"It is sometimes said that oil occurs below the surface of the ground in some regions just as water does in others. This would mean that a well in an oil region is as likely to strike petroleum as a well in a water-bearing region is likely to strike water—that the oil is distributed in an almost continuous sheet beneath extensive parts of the country. This is not true.

"Another statement frequently heard is that the oil forms an underground 'stream,' and that a lucky location for a well must lie over that 'stream.' Expensive and fruitless drilling has repeatedly shown that such 'streams' of oil do not exist. A belief that is strongly held in some parts of the country is that oil pools are connected—that some channel connects the pools in an oil region. This belief is absolutely disproved by the ranks of barren wells that encircle practically every producing oil pool in the world.

"Another wrong idea is that petroleum occurs in underground ponds or lakes. In fact, prospectuses of some oil companies refer to 'lakes and rivers of oil,' giving the idea of great caverns filled with oil. Not a single such cavern has been found in any oil fields in the United States. Oil is really contained in the tiny openings between grains of sand, in the pores and crevices of a crystalline limestone, or, as in the largest wells, in the comparatively small openings of a very porous rock."

In the *Oil News* the American Petroleum Institute estimates the number of automobiles in use on December 31, 1921, as follows:

"Every indication points to a large increase in the demand for gasoline in the next few years. The probable registration of automobiles in the United States on December 31, 1921, will be 12,000,000 cars, according to an estimate in a report to the American Petroleum Institute. This is a gain of more than 50 per cent. over the present registration of nearly 7,600,000 cars. The report states that there are 300,000 tractors in the United States and that the number is rapidly increasing. The growing number of stationary engines constitutes a further demand which the petroleum industry is called upon to supply. The increase in the number of internal combustion engines, as reflected in the growing number of automobiles in use, is also causing a big demand for lubricating oil."

Oil Possibilities in New Mexico

New Mexico has been a recognized wildcat oil field for more than two years past. Tens of millions of dollars are being spent there and have been spent in a high-pressure search for oil. Of the possibilities of this country and the probability of finding oil in it, John T. Knox of the American Association of Petroleum Geologists read a paper at their meeting at Dallas, of which the following are pertinent excerpts from the complete paper as published in the *Engineering and Mining Journal*:

"Lithologic conditions in southern New Mexico are in some measure analogous to those in the oil fields of the Mexican Coast. The Tamasopo limestone of Mexico is an immensely thick series, and enormous quantities of oil have been produced from the upper beds of this formation. The rock itself is not more bituminous than are many of the Paleozoic limestones of southern New Mexico, and it is reasonable to suppose, if the Tamasopo limestone produced the oil which is found in it, that oil may be found in the Magdalena or underlying limestone in New Mexico.

"In my opinion, the Plateau Province, west of longitude 106 degrees and north of latitude 34 degrees is the most promising region in the State of New Mexico in which to prospect for oil and gas. It is essentially an era of Cretaceous rocks. Pennsylvanian formations outcrop in many places, and Permian and early Mesozoic formations have a more limited distribution, but Cretaceous rocks predominate. When measured over long distances, the sedimentary beds are found to lie flat, or nearly so. Small faults with a moderate throw are numerous, and locally small, well-defined anticlines afford excellent collecting areas for petroleum contained in the deformed beds.

"If oil is found in the Plateau region, it will probably be discovered in Cretaceous rocks, and chances of finding oil in these formations are bright. Great quantities of oil are being obtained from Cretaceous rocks in Wyoming and the Wyoming Cretaceous is similar in all important respects to the Cretaceous of northwestern New Mexico. The Cretaceous areas in the San Juan Basin and the smaller Cretaceous areas northwest and west of Magdalena are probably the most favorable localities in the State.

The oldest rocks found in the district around Magdalena are Mississippian in age, and they are exposed over only a limited area. The Pennsylvanian formations are similar lithologically to the Pennsylvanian formations east of the Rio Grande, and the probability of finding oil on structures in the Paleozoic in this district is neither greater nor less than of finding it on structures in the Tertiary-filled valleys of south-central New Mexico. The surface of the Plateau is not everywhere buried under a mantle of Tertiary debris, however, and chances of locating a favorable structure are much better than in the basins to the east and south. The Manzano group is probably considerably thinner than it is in the Rio Grande Valley, and on many structures a well 3500 feet deep would test the lower Pennsylvanian and the Mississippian. Operators who wish to test the Paleozoic horizons in this region should devote careful attention to the areas of Pennsylvanian outcrop around Puer-tecto and Magdalena.

"Even a brief examination will indicate that the situation in the San Juan Basin closely resembles that in Wyoming. At the base of the Mesaverde is a bed of sandstone nearly 200 feet thick and sufficiently porous in most places to form a good storage horizon. A similar sandstone lies at the top of the Mesaverde immediately underneath the Lewis, and separated from the lower sandstone by a considerable thickness of shale. Even if no oil has migrated downward from the Lewis into the underlying sand, the shale serves as an adequate and impervious seal for the possible oil horizons below.

"Enough oil has been found in the Mesaverde along the south side of the San Juan Basin to encourage further drilling. The Mancos shale may never have produced large quantities of oil, and the overlying sandstones may be barren, but until this has been conclusively proved by several tests drilled on good structures I am inclined to regard the San Juan Basin as the best prospective oil territory in the State of New Mexico."

Oil Shale

The necessity to increase petroleum output has resulted in deep interest in the investigations of scientists and prospectors in the oil-shale beds of the country, particularly of the

West. That this branch of the petroleum industry has many difficult problems before it is well recognized. Some of these problems are set forth by Martin J. Gavin, Refinery Engineer of the Bureau of Mines, in a special interview in the *National Petroleum News* for July 21, in which Mr. Gavin said, in part, as follows:

"The development of an oil-shale industry to one of considerable importance in this country will require the expenditure of many millions of dollars and take a period of many years. Such development will require much research and technical study, and it will also require the services of trained executives and experienced technicians. Nevertheless, when economic conditions become favorable it is reasonable to believe that our oil shales will be of great value as a source of oils similar to those now derived from petroleum. An idea of what large-scale development of the oil shale industry involves may be gained from the consideration that to produce one barrel of crude oil from shale, on the average at least one ton of a tough rock must be mined, crushed, heated to a relatively high temperature, and finally the residue, amounting to about 75 per cent. of the original weight of the raw shale, must be disposed of as valueless.

"Oil shale contains little or no oil as such, but it contains substances which when the shale is subjected to destructive distillation yield gas, crude oil, and nitrogen-containing compounds, notably ammonia, as well as other products in small and probably of unimportant value for the most part. Oil shale, as a rule, must be mined much as coal is mined, crushed, and heated to a relatively high temperature in closed retorts, which may operate continuously or intermittently. These steps are necessary to produce the gas, crude oil, and ammonia, the latter of which is in solution in the water obtained along with the oil.

"The ammonia water is then distilled and the released ammonia passed into sulphuric acid, producing ammonia sulphate. The crude oil must be refined, much as petroleum is refined, to produce the various commercial products. The refining of shale oil is more complex and in all probability more costly than the equivalent refining of petroleum. However, undoubtedly the shale oils can be refined and can be made to yield many products similar to those produced when petroleum is refined. The oils produced from the oil shales of this country will yield gasoline, burning oils, and paraffin wax, all of which, when properly treated, will undoubtedly be satisfactory commercial products. Whether the more viscous grades of lubricating oils, such as lubricants for internal-combustion motors, can be produced from shale oils is doubtful, but it may be

possible to do so. Little is known in this country as to the refining of shale oils at the present time, and this statement can be applied generally to the possibilities and technique of oil-shale operations in the United States."

But the fact that oil shale production has been a proved commercial success in Great Britain and in Scotland for more than 50 years should not be overlooked, and it has not been overlooked by far-seeing American investigators.

A few weeks ago Dr. Victor C. Alderson, president of the Colorado School of Mines, who has long been actively interested in the development of the oil-shale industry of this country, talked in the office of The American Mining Congress en route to Europe on a tour of investigation of European methods of oil-shale production and distillation, particularly those in use in Scotland.

The *Petroleum Times* of London, England, in its issue of June 19 has the following to say concerning Dr. Alderson's visit to Europe:

"Dr. Alderson is paying a brief visit to this country in order to become acquainted on the spot with the shale-oil resources of the United Kingdom and the methods which are being utilized in order to commercially develop our home oil resources.

"The doctor is recognized as the leading authority on oil-shale matters in the United States, and known as the father of the oil-shale industry there. He is also the author of the first book on America's oil-shale industry (now in the press) and chairman of the oil-shale section of The American Mining Congress.

"The Colorado School of Mines has taken a very keen interest in the great variety of minerals which are found in immense quantities throughout the State, but in none more so than in regard to the State's deposits of oil shale, which cover an area of some 5000 miles.

"So far no commercial plants are in operation for the treatment of shales, but a number are under construction, and some of these will probably be in operation during the summer.

"Dr. Alderson attaches the greatest possible importance to the future development of these shale deposits, in view of the steady depletion of America's liquid oil reserves, combined with the ever-increasing demand throughout the world for petroleum products.

"That their commercial operation will be very successful, from a financial point of view, is emphasized by the doctor, for, quite apart from the numerous valuable by-products which can be obtained by the retorting of the shales and the refining of the crude oil, the

oil itself can, he urges, be produced in open competition with the liquid oil. For instance, today Pennsylvanian crude is commanding \$6.10 at the wells and Mid-Continent crude \$3.50 per barrel.

"The Colorado shales can be mined very economically, for in many places the deposits outcrop to great depths alongside the ravines throughout the State. He estimated that \$1.25 per ton is a very small cost for mining the shale per ton, while another 60 cents will cover all costs connected with the retorting of the shales. The oil content of the Colorado shale varies considerably, and in the richest seams as much as 60 gallons per ton can be produced. Dr. Alderson, however, is conservative, and as a basis for calculation takes one ton of shale as producing one barrel of crude oil—42 gallons.

"The cost in connection with the production of this crude in the Colorado shale fields works out as above detailed at \$1.82—a figure which is considerably below that which the inferior grades of crude command today.

"Questioned in regard to the extent to which the Colorado shale deposits can replace the present output of America's oil wells, Dr. Alderson has come to the conclusion that there is sufficient shale in the Colorado deposits alone to supply almost unlimited wants for an indefinite period of time. On the basis of the above calculation, one 10-ft seam of Colorado shale will give almost 15,500,000 barrels of oil to the square mile, or seven times as much as is contained in each acre of good oil lands.

"As Dr. Alderson explains, however, this great development is for the future. At the moment, matters are in the experimental stage, and in this connection a great work is being done by the Colorado School of Mines. The necessity for those at the head to be thoroughly conversant with up-to-date shale mining and retorting practice in other parts of the world is a matter of the greatest importance, and this is the main reason for the visit to this country of Dr. Alderson, who hopes to be able to make a careful study of developments not only in the Norfolk shale fields, but also in Scotland, where, as is known, the oil-shale industry has been on a commercial basis for over half a century."

Coal By-Products as Gasoline Substitutes

Possibilities of other substitutes for the precious gasoline have also been recognized in wide investigation. Alcohol, which is produced by the large industrial alcohol companies, has long been looked at as a possible substitute for gasoline. Concerning the possibility of development of the use of industrial alcohol, and particularly alcohol made in small plants designed to consume the waste material of farms and rural districts, many

difficulties remain to be overcome, according to J. L. Lewis, Petroleum Technologist of the Bureau of Mines, in a statement in the *National Petroleum News* for July 7, in which he says, in part, as follows:

"A considerable quantity of gasoline substitutes is now being obtained from by-product coke ovens. It is expected that 95,000,000 gallons of benzol will be produced in 1920, which will be about 2 per cent. of the total gasoline supply for the year. Everything should be done to encourage and foster this industry. Still larger quantities of gasoline substitutes can be made by retorting coals and lignites which are now being consumed as they come from the mines. If the available oils could be extracted from every ton of coal and lignite before they were consumed, it would add very greatly to the supply of motor fuel.

"The production of benzol from coals is likely to be inseparable from the utilization of alcohols from vegetable matter, which you hope may be a solution of the motor-fuel problem. It is a fact that the present gasoline-using engine cannot use straight alcohol satisfactorily; also, it is going to be practically necessary that any substitute for gasoline as an engine fuel must be practically interchangeable with gasoline. To accomplish this purpose it is necessary to blend alcohol with gasoline. But alcohol will not blend with gasoline unless there is a considerable quantity of benzol or a similar product in the mixture. Therefore, unless some other solution of this problem is found it will be necessary to produce large quantities of benzol from coal in order to blend the alcohol with gasoline and make it an interchangeable fuel.

"At the present time but a comparatively small amount of alcohol produced from sugar refinery wastes is being placed on the market on competition with gasoline. This is being sold as alcohol, benzol, ether and gasoline blends. However, the quantity of alcohol obtainable from sugar refineries is negligible compared with our gasoline needs.

"It is true that there are immense quantities of waste vegetable matter throughout the country, and were it possible to gather the refuse from the farms and from the lumber camps and other places, a tremendous quantity of alcohol could be obtained. But it is unfortunately true that this waste vegetable matter is widely scattered and in few places is it concentrated enough that it seems commercially feasible to make alcohol in competition with gasoline.

"From a quantitative standpoint petroleum coal and oil shale are likely to be the cheapest raw material for making gasoline substitutes."

We can increase the production of gasoline substitutes by increasing the production of benzol as a by-product of coke plants.

Alcohol can be produced in unlimited quan-

tity, but to be used to advantage as fuel must be blended with benzol. If the total benzol production for last year had been used for blending to best advantage, a total of half a billion gallons of gasoline substitute would have been available. Not a large percentage of the 15,000,000,000 gallons delivered by refineries, it is true, but to load tank cars with 5,000,000 gallons of gasoline substitute would take 1000 trains of 60 tank cars to the train, each tank car loaded to 8000 to 10,000 gallons capacity—an amount not to be slightly considered.

Great Britain is making tests in the possibility of the use of gasoline substitutes according to the *Oil News*, which says:

"The high prices and increasing demand for gasoline have led to experiments in England for a suitable substitute motor fuel. Recent tests carried out by the London General Omnibus Co. appear to have resulted in interesting conclusions of utilitarian character, while the British Government is now conducting wide researches to discover a liquid fuel that will combine satisfactory features from both a scientific and a practical viewpoint.

"Some time ago omnibuses were successfully run in Paris on a mixture of benzol and alcohol. Benzol being a coal-tar product resulting from fractional distillation and usually extracted or 'washed' from coal or household gas, the supplies of benzol are dependent on the supplies of bituminous coal and habitually contingent on the good-will of the gas companies. However, the alcohol used is extracted from vegetable matter, and consequently there is no limit to the available supply. The experiments have, therefore, contemplated a liquid fuel containing as large a proportion of alcohol as possible. Nevertheless, it appears that neither benzol nor alcohol burns so quickly as gasoline, and the use of a mixture necessitates the structural modification of the ordinary gasoline engine.

"The salient points arising from the investigations that are now complete are that the possible thermal efficiency increases with the increased proportion of alcohol in the fuel for the same compression; that a high proportion of alcohol means also that the compression can be raised, with a consequent rise in the thermal efficiency; and that, so far as the engine is concerned, the bad effects on valve pockets are more marked at small throttle openings with high than with low compression.

"The successful tests were carried out on omnibuses fitted with special engines, having pistons that gave a compression of about 123 pounds per square inch."

Water Power

In casting about for a substitute for coal we hit upon fuel oil; and in casting about for a substitute for fuel oil the possibilities of electrical development are apparent. Why is this not one of our greatest possibilities, not only for stationary power, but for power transportation, even in small units, such as motor cars.

A motor corporation, headed by a famous engineer, is about to produce a motor car run by charged electric battery which has a range of 150 miles without recharging, and whose batteries weigh two-thirds less than any heretofore made. With abundant, cheap electrical power furnished by large turbine engine and water-power units throughout the United States, such transportation would be noiseless, cleanly, efficient, cheap and permanent. On this the *Mining and Oil Bulletin* of July, 1920, has the following to say:

"Power is the greatest need of the world today. The people of the world depend upon power to operate the machinery and drive the wheels of industry needed to aid the production of the necessities of life on a scale vast enough to cope with the demand.

"The West is more fortunate than other sections of the United States. While lacking coal, and while required to release its supply of oil for use in parts outside the State, great power resources exist in the streams, snows and waterfalls of its mountains, which form the great backbone of the West.

"The development of these power resources, the installation of great hydro-electric generating plants, the utilization of the electric power thus generated in more extensive operations in mining, agriculture, industry and manufacturing of all kinds, must be speeded up and given every possible impetus if we are, with anything like characteristic initiative or adequate effort, to help meet the situation in which the world finds itself today.

"With the passage of the Water-power Act, and its approval by the President, it is no idle dream to anticipate the development of the water-power resources of the West to their fullest possible extent; to the efficient and economical distribution of the electric power generated, and, ultimately, to the complete electrification of our homes, ranches, factories, mines and oil wells, railways and railroads. We will pass from the oil age to the age of electricity."

Further interesting comment on the largest development of water-power in the United States is in the *Magazine of Wall Street*. Any-

one who has seen the mammoth turbines at Niagara Falls and the wonderful power resources that they develop cannot but be hopeful for the development of all water-power in the United States:

"Where the tunnel begins, about a mile and a half above the Falls, are two power-houses, built of stone, like fortresses. Here is constructed a surface canal and under the power-houses are the wheel pits, at the bottom of which are installed the turbines. The water passes from the canal direct to the turbines, through immense steel penstocks, causing them to revolve at high speed. By means of shaft connection between these turbines and the generators the electric current is generated. In these two power-houses are 21 units of power, each generating 5000 horse-power, or 105,000 horse-power in all. This is but one of the five power plants now operating at Niagara Falls, and this development is but a fraction of the power of the Falls, which, it is estimated, is capable of developing 5,000,000 horse-power.

"One hundred million tons of water flows over the brink of Niagara Falls every hour. At the crest of the Horseshoe Falls, on the Canadian side of the river, the water even now, when so much water is being diverted for power purposes, flows over with an unbroken flow 11 feet deep. Engineers have figured out with considerable exactitude that 58,000 barrels of water go over the Falls every second.

"To get this within the easy comprehension of the human mind, let us assume that these 58,000 barrels of water represents an equal amount of gasoline. It is not hard to imagine the power that this amount of gasoline can exert when brought into force by an explosive spark. Imagine, then, the power that is now going to waste over Niagara Falls, for in the abrupt drop of 158 feet this water, if harnessed and made to whirl an electric dynamo, will exert something of the same force that will the 58,000 barrels of gasoline.

"Today it is estimated that the total horse-power produced by electric motors is approximately 9,000,000 horse-power. Back in 1890 it was less than 20,000 horse-power.

"There are many great chemical factories, a large plant producing calcium carbide, factories producing caustic, bleach, chlorine, etc. It is a novel, a unique industrial community where secret processes are the vogue, and all have electricity as a basis.

"Those who have grown enormously rich out of Niagara Falls power, and there are many such, are not the men who backed the power plants, but the concerns that came in and adapted the product of the power plants to the manufacture of their products."

German Metallurgical Press Control

Controlled publications of any character are dangerous, but controlled technical and trade journals are particularly vicious.

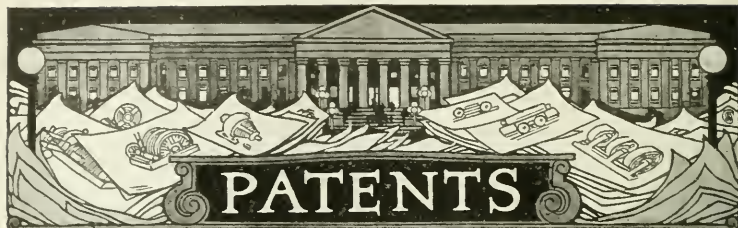
The new group of interests in Germany whose activities in the control of sources of natural resource have been of recent note in the public press are attempting this through their newspaper trusts, says the *Mining Journal* of London:

GERMAN METALLURGICAL NEWSPAPER TRUST.

"Considerable prominence is being given in Germany to the efforts of German metallurgical interests, notably the Stinnes-Hagenberg group, to obtain control of the press of the country by the wholesale purchase of newspapers and publishing houses. According to the *Hamburger Echo* the Stinnes group, who already own, in addition to several printing and publishing concerns, the *Deutsche Zeitung*, the *Lokalanzeiger*, and the *Tageblatt*, have recently bought the *Munchen Ausberger Abendzeitung*, the *Deutsche Allgemeine Zeitung* (official Government organ), and a daily, published in Dortmund. It is stated that as many as 70 journals published in Berlin and in the provinces will come under the control of Herr Stinnes, who is reported to have secured the necessary supplies of paper by purchasing five cellulose factories. The *Leipziger Neuste Nachrichten* suggests the existence of a close connection between these newspaper purchases and Herr Stinnes' coal interests, and concludes as follows: 'A coal dictatorship in the West will be followed by a corn dictatorship in the East, and between the two Germany will never be anything more than a sort of colony exploited by the Entente, and will never be able to recover her liberty and her national dignity.'"

To meet the need for professional services the Associated Geological Engineers has been reorganized into a specialized organization now known as the Associated Petroleum Engineers.

One of the important departments of the Associated Petroleum Engineers, in keeping in touch with petroleum developments and possibilities throughout the world, so as to give the best service to clients, is its library. Its data already cover the United States intensively and the world extensively. In addition to the array of books and publications properly forming a part of every complete library, its contents include a card catalogue of about 10,000 subjects relating to petroleum geology and engineering, 6000 well logs filed by localities, all important geological and topographic maps, and a comprehensive file of clippings and miscellaneous data on oil and its prospects throughout the world.



CONDUCTED BY JOHN BOYLE, JR.

1,341,686—*Russell Thayer*, Philadelphia, Pa.

Process of Extracting Platinum and similar metals from their sands and ores, consisting in commingling therewith a halogen of an alkali metal; subjecting the charge to the action of heat to volatilize the metal and then collecting the volatilized metal.

1,341,734—*Niels C. Christensen*, Salt Lake City. Assigned $\frac{1}{2}$ to J. E. Barlow, Havana, Cuba, and $\frac{1}{2}$ to Big Indian Copper Co.

Method of Obtaining a Concentrated SO_2 Solution.

1,341,770—*William W. Wilson*, Los Angeles.
Apparatus for Mineral Separation.

1,341,786—*C. J. A. Dalziel*, London, England.

Process of Recovering Copper from Its Ore, consisting in treating the finely crushed ore with an acid solution so as to produce a flowable pulp, aerating and agitating the same, passing the pulp through a series of electrolytic cells, while preventing sedimentation by introducing a blast of air at the lower part of each cell and continually discharging the barren pulp from the last cell.

1,341,800—*Frederick A. Eustis*, Milton, Mass.

Preparing Fine Ore for Smelting, comprising making the ore into a filter cake, and sticking finely divided particles of fuel to the outside surface of the filter cake.

1,341,808—*H. W. Gendar*, Lost Hills, Cal.
Oil Well Meter and Sampler.

1,341,901—*C. R. Hayward, F. O. Stillman and H. M. Schleicher*, Boston, Mass. Assigned to Moa Iron & Development Corp.

Treatment of Iron Ores containing aluminum, nickel, manganese and chromium, comprising subjecting the ore to a sulfatizing roast, then leaching, then evaporating the

liquor, leaving dried sulfate salts, and roasting the dried sulfate salts to produce oxides of the contained metals.

1,342,115—*Thomas A. Janney*, Garfield, Utah.

Flotation Machine, comprising an agitation vessel for the ore pulp, a separating box communicating with said vessel through upper and lower ports, agitating means for causing a circulation of pulp from the vessel to the box through the upper port and back to the vessel through the lower port, and means for introducing air in a finely divided condition into the ore pulp in the separating box.

1,342,567—*Samuel G. Musser*, Los Angeles.
Amalgamator.

1,342,651—*H. W. Squires*, Amityville, N. Y.
Assigned to Research Corp.

Electrical Precipitator for the treatment of gases, comprising a pair of sloping electrodes defining a passageway for the gas substantially circular in cross section.

1,342,741—*David T. Day*, Washington, D. C.

Process of Extracting Oils from Shale, consisting in introducing hot gases of combustion into an opening in the earth and into contact with the shale, vaporizing and collecting the hydrocarbons.

1,342,804—*William E. Greenawalt*, Denver, Colorado.

Metallurgical Process.

1,342,917—*S. C. Lane*, Los Angeles, Cal.
Multiple Process Chilian Mill.

1,343,041—*William De Coursey*, San Francisco, Cal.

Combined Ore Grinder and Amalgamator.

1,343,123—*Rudolph Gahl*, Miami, Ariz., and *Robert M. Haskell*, Lake Linden, Mich. As-

signed in part to Pneumatic Process Flotation Co.

Ore Flotation Apparatus provided with a chamber having a well made of elastic material and provided with fine openings there-through and means for introducing fluid under pressure into said chamber.

1,343,153—*A. A. Ossa*, Valparaiso, Chile.

Process of Extracting Copper, consisting in leaching the oxide ore with sulphuric acid; precipitating the copper as iodide by means of hydriodic acid in presence of sulfur dioxide and regenerating hydriodic acid from the iodid precipitate.

1,343,266—*B. A. Hughes*, Colorado Springs, Colorado.

Ore Concentrating Table.

1,343,285—*Walter A. Schmidt*, Los Angeles. Assigned to International Precipitation Co.

Electrical Precipitator for gases, comprising a longitudinal ionizing part, a charging electrode and a collecting field surface member substantially parallel to the ionizing part.

1,343,313—*Samuel H. Dolbear*, San Francisco. Assigned to Minerals Separation North American Corp.

Flotation Process and Apparatus, involving subjecting a column of liquid containing the ore to gasification in such manner that gas in the form of bubbles will rise upward in the liquid and become attached to floatable material, and then diverting such bubbles from the column into a gaseous medium at a point where the pressure in said column is greater than in the gaseous medium.

1,343,360—*A. E. Kneec*, Bluefield and *G. B. Hopkins*, Lex, W. Va.

Mechanical Long Wall Coal Loading Conveyor.

1,343,482—*W. A. Schmidt* and *G. C. Roberts*, Los Angeles. Assigned to International Precipitation Co.

Electrical Precipitator.

1,343,497—*Charles W. Eccleston*, Los Angeles.

Riffled Pneumatic Concentrating Table for the separation of comminuted material, comprising a top of elastic material having fine punctures therein and means for supplying compressed air to the underside of the sheet to open the punctures, so that the material is subjected to a gravitational action according to the difference of pressures on each side of the top.

1,343,610—*J. O. Elton*, Great Falls, and *R. B. Caples*, Cascade, Mont. Assigned to Anaconda Copper Mining Co.

Process of Treating Impure Zinc Sulfate Solutions, containing copper and cadmium, comprising precipitating copper and cadmium therefrom by zinc in excess and separating the residue from the purified solution; treating the residue with sulfuric acid proportioned to dissolve substantially all of the zinc and cadmium while leaving the copper substantially undissolved; and precipitating cadmium from the solution by means of zinc.

1,343,683—*M. L. Rogers*, Johannesburg, Cal. **Concentrator.**

1,344,051—*Alfred R. Mackie*, Lander, Wyo. **Concentrator.**

1,344,123—*E. W. Engelman* and *W. T. Macdonald*, Hayden, Ariz.

Flotation Apparatus, comprising a cell having impervious concrete sides and a porous concrete top.

1,344,127—*William E. Greenawalt*, Denver, Colorado.

Metallurgical Process, consisting in treating mixed sulfid and oxid ores of copper with a solvent for the oxidized copper, applying a flotation agent to the ore pulp, electrolyzing the ore pulp at a current density sufficiently high to give a loose deposit of copper, and floating the metallic copper produced by the electrolysis and the sulfid mineral with gases liberated by the electrolytic action.

1,344,201—*Chas. E. Davis*, Chicago, Ill. Assigned to Goodman Mfg. Co.

Mining Machine, comprising a frame, a cutter chain, a chain guard slidably engaging the frame, said frame provided with a receiving space for the guard, said guard adapted to move back into the space as the chain moves forward, the mining machine being supported on the mine floor independently of the chain guard.

1,344,370—*Charles Allen*, El Paso, Tex.

Automatic Density Indicator for Slime Pulp Separators.

1,344,681—*C. J. A. Dalziel*, London, England.

Process of Extracting Metals, comprising leaching and electro-deposition.

1,344,074—*William Crooks*, Aldrich, Ala.

Automatic Mine Door Operating Mechanism, comprising a pair of laterally moving sliding doors, side anchors and divergent telescoping arms connected at one end to the pair of doors and at the other end to said side anchors.



DECISIONS OF THE INTER-STATE COMMERCE COMMISSION

Rate Advances

The Interstate Commerce Commission is expected to hand down in the very near future a decision providing for increases in all railroad charges necessary to bring the income of the carriers up to the level prescribed in the Transportation Act. Since the hearings in this matter were concluded, the Railroad Labor Board has awarded approximately \$600,000,000 as an increase in wages; and the carriers have petitioned the Commission to include an increase with the general one previously asked for, which will take care of this increase in wages. The amounts necessary are: In official territory 10 per cent. and in Southern and Western territory approximately 8½ per cent. on freight rates. It is also proposed to increase passenger rates 20 per cent., and to put a sur-charge on Pullman fares for the benefit of the railroads, this charge to be 50 per cent. of the rate. Added to the increases previously asked for, this will mean an increase of 33½ per cent. in the total freight revenues of the country. The eastern section will require more than the South and West.

Car Service

Considerable interest was manifested in the Commission's hearings in Ex Parte No. 75, which had to do with the supply, exchange, interchange and return of open-top equipment within the territory east of the Mississippi River. Following these hearings, the Commission issued Service Order No. 9, which modifies Service Order No. 7, previously in effect. The new order extends the life of the requirements from 30 to 60 days from June 1, 1920. It also requires the unloading of coal or other freight in coal cars within 24 hours, and gives preference and priority to public utilities and institutions.

Service Order No. 10 provides for the shipment to the Northwest of a sufficient amount of coal to meet the requirements of that section prior to the close of navigation; and this coal is being sent through a pool directed by

H. M. Griggs, manager of the Ore and Coal Exchange at Pittsburgh.

Service Order No. 11 provides for the shipment of coal to tidewater coal trans-shipment piers at and north of Hampton Roads, Va., for trans-shipment by water to New England. The purpose of this order is to relieve the New England situation; and it is being handled through coal pools at the various tidewater points.

The Commission has notified all carriers that they must not confiscate coal consigned to the War Department or other Government departments.

Earnings

The final figures for the month of April show that all carriers in the United States sustained a deficit of over \$25,000,000, as compared with an income last year of \$28,000,000. The Eastern district bears \$20,000,000 of this deficit, and the Western district over \$6,000,000. The Southern district had an income of \$1,500,000. This poor showing is undoubtedly due to a large extent to the numerous strikes that were in effect throughout the country during April. For the four months ended with April the income for all carriers is approximately \$52,000,000, as compared with \$75,000,000 for the same period last year.

Decisions of the Interstate Commerce Commission

Coal.—In a case brought by the Wholesale Coal Trade Association of New York, the Commission has found demurrage charges on tidewater coal not unreasonable from November 11, 1918, to March 2, 1919, but during the balance of March they were unreasonable, and reparation has been awarded. In the same opinion, the monthly period for adjusting credits and debits was not found unreasonable, and tidewater regulations were declared not unduly prejudicial to small shippers. The record as made up did not justify the departure from the general rule with respect to denying relief from demurrage charges during strikes.

The combination rates on bituminous coal in earloads from Christopher and West Frank-

fort, Ill., to West Allis, Wis., were found unreasonable, and reparation was awarded to the Old Ben Coal Corp.

Rates of \$1.10 per gross ton on bituminous coal from Snow Shoe, Grass Flat, Munson and Hawk Run districts in Central Pennsylvania via New York Central and Pennsylvania to Lock Haven, Pa., not found unreasonable or otherwise unlawful in a complaint by the New York and Pennsylvania Company.

Petroleum.—In a complaint of the Atlantic Refining Co. the Commission found rates on petroleum naphtha from Crichton, La., to Pittsburgh, Pa., unreasonable to the extent that they exceeded the aggregate of intermediate rates, and reparation was awarded.

Rates on gasoline and lubricating oil, in tank carloads from Port Arthur, Tex., to Memphis, Tenn., found not unreasonable in a case brought by the Gulf Refining Co. of Louisiana.

Rates on fuel oil, carloads, from points in Kansas, Oklahoma, Missouri and Arkansas to Keokuk, Iowa, found unreasonable and unduly prejudicial, and reparation on some shipments awarded to the J. C. Hubinger Brothers Co.

In a complaint of the Montana Oil Co. the rate on petroleum and its products, carloads, to points in Montana from points in northern Oklahoma found not unreasonable, but unduly prejudicial to the extent it exceeds the rate contemporaneously in effect from Kansas points to the same destinations, and like rates from southern Oklahoma found unduly prejudicial to the extent that they exceed the rate contemporaneously in effect from northern Oklahoma and Kansas points to Montana points by more than the differentials currently in effect on like shipments from southern Oklahoma points on the one hand and northern Oklahoma on the other to Kansas City, Mo., but not to exceed 5 cents per 100 pounds.

Investigation and Suspension Cases

In Docket No. 1190 a proposed cancellation of the existing fabrication-in-transit privilege at St. Louis based on through rates from point of origin to destination plus an additional charge of 1½ cents per 100 pounds, in connection with shipments of structural iron and steel originating at Chicago, Ill., Gary, Ind., or at points east of the Indiana-Illinois State line and destined to Memphis, New Orleans and certain other Mississippi Valley points, has been suspended and will be investigated.

In Docket No. 1191 the Commission has suspended and will investigate a rule proposed by Agent Gomph in his I. C. C. No. 378, which provides that freight charges on traffic from points in the United States to points in Canada must be paid in United States currency.

Tentative Reports

Docket No. 11274—Wharton Steel Co. v. Director-General and Central Railroad Co. of New Jersey.

A tentative report in this case has been proposed by Examiner W. H. Wagner, the syllabus of which is as follows:

"Demurrage charges assessed on cars containing ore frozen in transit not shown to have been illegal, unreasonable or otherwise unlawful. Complaint dismissed."

Docket No. 11160—National Fireproofing Co. v. Director-General, Pennsylvania Company et al.

A tentative report in this case has been proposed by Examiner G. H. Mattingly, the syllabus of which is as follows:

"1. Complainant's prayer for the establishment of joint rates on coal in carloads from points in the Mercer-Butler and Pittsburgh districts of Pennsylvania denied.

"2. Applicable combination rates found not unreasonable and complaint dismissed."

Docket No. 10848—Oklahoma Producing & Refining Corp. of America v. Director-General, Chicago & Eastern Illinois Railroad Co. et al.

A tentative report in this case has been proposed by Examiner H. B. Armes, the syllabus of which is as follows:

"Rates on petroleum and its products, in tank carloads from Warren, Pa., St. Marys, W. Va., and Chicago Heights, Ill., to Muskogee, Okla., found not to have been or to be unreasonable, but that they were and are unduly prejudicial to the extent that they exceeded or exceed the corresponding rates contemporaneously maintained to Tulsa and Wagoner, Okla. Reparation denied."

Docket No. 11304—American Smelting & Refining Co. et al. v. Director-General, Baltimore & Ohio Railroad Co. et al.

A tentative report in this case has been proposed by Examiner W. H. Wagner, the syllabus of which is as follows:

"Demurrage charge and free time at Baltimore, Md., on carload shipments of coke for export not shown to have been unjust or unreasonable between February 10 and December 31, 1918. Complaint dismissed."

Released Rates Orders

The Commission has issued numerous orders allowing the carriers to publish rates dependent upon value declared in writing by the shipper or agreed upon in writing as the released value of the property.

The numbers of these orders, together with their application, are shown below:

No. 122—Ore and Smelter Products between Points in Colorado as shown in Atchison, Topeka & Santa Fe Railway Co. Tariff No. 5888-1, I. C. C. No. 8455.

No. 123—Ore, Concentrates, Matte, Copper and other Smelter Products between Points

in Arizona, California and Nevada as shown in Atchison, Topeka & Santa Fe Railway Co. Tariff No. 5881-F, I. C. C. No. 6323.

No. 124—Ore and Concentrates, in Carloads, from Points on Eureka Nevada Railway to Palisade, Nev.

No. 125—Ore, Concentrates, Matte, Copper Products, etc., from Points in Arizona, California and New Mexico to various Destinations as shown in Atchison, Topeka & Santa Fe Railway Co. Tariff No. 5746-G, I. C. C. No. 8285.

No. 127—Ore, Concentrates, Matte and Copper Products, in Carloads, from Cox and Brown's Spur to Blythe Junction, Cal.

No. 128—Ore, in Carloads, from Deming, N. M., to Florence, Colo.

No. 129—Ore and Concentrates, in Carloads, from Magdalena, Kelly, Hurley, Santa Rita, Fierro and Silver City, N. M., to Sasco, Ariz.

No. 130—Ore and Copper Matte, in Carloads, from Stanley, Clark, Magdalena and Deming, N. M., Pueblo, Colo., and El Paso, Tex., to El Paso, Tex., Stanley and Waldo, N. M., Pueblo and Canon City, Colo.

No. 131—Lead Matte, Containing Copper, in Carloads, from Needles, Cal., to Omaha, Nebraska.

No. 132—Ores, Concentrates, Sulphurets, Matte and Bullion from El Paso, Tex., Denver and Pueblo, Colo., and points in New Mexico, to points in Colorado, Illinois, Indiana, Missouri, New Mexico, Oklahoma and Texas, as shown in Atchison, Topeka & Santa Fe Railway Co. Tariff No. 5805-G, I. C. C. No. 8349.

No. 133—Ore and Concentrates, in Carloads, between Points in New Mexico and stations on the El Paso and Southwestern system.

No. 134—Ore and Concentrates, in Carloads, from Points in New Mexico and Arizona; also Needles, Cal., on Atchison, Topeka & Santa Fe Railway Co., to Blende, Colo.

No. 135—Ores and Concentrates, in Carloads, from Needles and Ivanpah, Cal.; also points in Arizona and New Mexico, to Points in Arkansas, Illinois, Kansas, Missouri, Nebraska and Oklahoma as shown in Atchison, Topeka & Santa Fe Railway Co. Tariff No. 6644-P, I. C. C. No. 8165.

No. 136—Zinc Lead Flue Dust, in Carloads, from Canon City, Colo., to Chicago, Chicago Heights, South Chicago and East Joliet, Ill., Gary and Hammond, Ind., and Coffeyville, Kansas.

No. 137—Copper Matte, in Carloads, from Stanley, N. M., to Omaha, Neb.

No. 141—Ores, Concentrates and Sulphurets, in Carloads, from Courtland, Gleeson, Pearce and Servoss, to Clifton, Ariz.

No. 143—Ores, in Carloads, between Points in Oklahoma and Points in Colorado as shown in Atchison, Topeka & Santa Fe Railway Co. Tariff No. 5681-G, I. C. C. No. 8444.

PERSONALS

W. J. Loring of San Francisco, who has been in Washington on business for several weeks, has returned to California.

Judge John A. Davis of San Francisco is in Washington before the War Minerals Relief Commission representing California claimants.

Dr. R. C. Allen, vice-president of the Lake Superior Iron Ore Association, was a caller at the offices of the Mining Congress during the month.

Carl Scholz of Charleston, W. Va., a director of The American Mining Congress, spent two days in Washington, where he attended the meeting of the National Coal Association and conferred with the Secretary of the Mining Congress on affairs of importance.

Bulkeley Wells, president of The American Mining Congress, arrived in New York July 18, where he will remain until September. He is stopping at the Knickerbocker Club and is transacting business at the usual place, 120 Broadway.

John T. Burns, assistant secretary of The American Mining Congress, left Washington August 1 for Denver to open convention headquarters at the Albany Hotel, where he may be reached until further notice. The convention will be held in Denver November 15-19.

J. D. Burgess, who has been general manager of the United Eastern for the Keith-Wiseman-Jackling interests, has tendered his resignation to take effect this month. There will be no successor to that position, although Roy Moore, who has been assistant manager, will be retained with the title of general superintendent. It is understood that Mr. Burgess has formed an alliance with a mining engineering firm of San Francisco and will make his home in that city.

G. H. Caperton has been appointed treasurer of the Smokeless Coal Operators' Association of West Virginia.

Frank L. Hess of the United States Geological Survey has returned to Washington after several months spent in South America in the interest of the Guggenheims. He will resume his work at the Survey at an early date.

The Quincy Mining Co., 32 Broadway, New York, has announced the removal of their offices to 52 Broadway.

THE MINING CONGRESS JOURNAL

Official Publication of the American Mining Congress

A FAIR AWARD

The President is to be commended for his vigorous support of the finding of his Anthracite Coal Commission. He is supporting a finding which is sound economically, just to the miners and equitable to the public. The procedure of the commission from the start was characterized by fairness and clear thinking. One of the first indications of this soundness was the elimination by the commission, as a basis for the calculation of fair wages, of anthracite coal. The second indication of straight thinking was the demanding of the consideration of the retail price of basic figures for the generalizations in the Jett Lauck statistics, particularly on increased cost of living. These basic figures were not forthcoming to an extent which proved them to be more than mere generalizations arrived at from an assumed premise. A third point was the quickness of the commission to grasp the difference between the wage scale applicable to the bituminous and anthracite industries, the anthracite workers making the plea that they were penalized in their wage scale by steady employment. The reverse was shown to be the case, namely, that the bituminous workers were of necessity granted a higher wage scale because of the interrupted nature of their employment. In adding to the existing wage scale an increase of 17 per cent. and 20 per cent. to contract workers, the Anthracite Commission has rectified any injustice that existed between the miners, and has limited in so far as is possible the increased burden to the public.

The President could scarcely do other-

wise than support a ruling so fair and so unbiased, especially in the face of the present temper of the consuming public.

MINE SAFETY WORK

The *Engineering and Mining Journal* in a recent issue presented an illustration of expenditures by the United States Bureau of Mines, in which it was shown that its general expenses are 7 per cent., mineral mining 10 per cent., experiment stations 19 per cent., fuel testing and petroleum 21 per cent., and mine accidents 43 per cent.

The editor asks, "Frankly speaking, is not this graph a deformed monstrosity?" and urges that "the first thing that should be done is to call in an expert from outside to lay out a program; the second, to have the courage to 'hew to the line,' let the chips fall where they may."

THE MINING CONGRESS JOURNAL fully agrees with the editor of the *Engineering and Mining Journal* that a much larger expenditure should be made by the Bureau of Mines, looking to a more economical and efficient operation of the metal mining industry of the country, and may perhaps agree that too large a proportion of the total appropriations is used for other purposes. It must be remembered, however, that the Bureau of Mines was created by Congress for the purpose of making such investigations "as would increase safety and efficiency in mining operations." During the contest which terminated in the creation of the Bureau of Mines, many and various efforts were needed to retain the word "efficiency," because of the fact that the

principal purpose which Congress had in mind in creating the Bureau of Mines was to prevent as far as possible the loss of life in mining operations. At that time these casualties were supposed to occur almost entirely in coal-mine explosions. The attention of the public was riveted upon the disasters in coal mining, and the Bureau of Mines Bill was passed by Congress in the belief that it would have a tendency to lessen these disasters.

None will be disposed to criticise the efforts made looking to greater safety in mining operations. Such work carries with it the double incentive of sympathetic and humanitarian purpose as well as the prevention of financial loss.

And no one who examines the record will say that from the most selfish pecuniary standpoint the Bureau of Mines has not justified itself. The first appropriation for this work was made by Congress in the year 1907, when the loss of lives in the coal mines of the country numbered 3242, at the rate of 4.81 to each thousand men employed, and the rate of 6.78 per each million tons of coal produced. The number killed in the mines per thousand men employed and per tons of coal produced have been gradually reduced from that time until today. In the year 1916, with a greater production of 110,000,000 tons, the number killed was reduced to 2226, a ratio of 3.09 per thousand men employed, and of 3.77 per million tons of coal produced. From a purely commercial and heartless standpoint, and on the basis of the usual jury award of \$5000 each, this saving of 1016 lives was a saving to the country of over \$5,000,000, to say nothing of the increase which would naturally have followed the 25 per cent. increase of coal production during the latter year. From every standpoint, the work has justified itself, and the American Mining Congress is proud of the record made by the United States Bureau of Mines in this work.

LABOR IN BUSINESS

The Chicago *Dispatch* announces that the Chicago Federation of Labor has voted to withdraw its funds from the

local banks and deposit them in the Non-Partisan League Bank in Bismarck, N. D., to help in financing the wheat harvest. At the same time, it is announced from Cleveland that the Brotherhood of Locomotive Engineers has taken out a charter for a bank with a capitalization of one million dollars, its stock ownership to be limited to Brotherhood members.

Both of these movements are to be highly commended. The solution of the labor problem will not, in the judgment of THE MINING CONGRESS JOURNAL, be made possible by the coercion of non-union members, nor in the effort to prevent work except under the direction of labor unions and upon terms which they may dictate, but rather in such efforts as make for thrift, saving and increased production. Whenever labor shall join the class of the thrifty; whenever each individual member shall undertake to provide from his earnings of today for the rainy day which is sure to come, the independence thus created will give him a different viewpoint as to the right of one man to insist that another shall join a union before he is privileged to earn a living for himself and his family. Let the good work go on.

THE VALUE OF BUSINESS CO-OPERATION

There will be some difference of opinion concerning the recent announcement of a Presidential candidate of his "special concern for the California fruit industries because they have given to the country a splendid illustration of the beneficent results of highly-organized, well-managed co-operation," stating further that "California's fruits could not have gained the great market and repute they have but for the working of the big co-operative marketing associations on which production, distribution, transportation and financial organization have all been co-ordinated to give service to both producer and consumer at the least possible cost."

There are many who believe that the highly-organized system by which Cali-

ifornia fruits have been marketed has in many instances increased the cost of fruit to the consumer to an unwarranted extent, but it will be found that this belief is based upon prices in markets overstocked at the expense of other markets in which no supply was available. It is true that a uniform distribution has been effected; that perishable fruits have not been dumped into markets already overstocked, and that the fruit crop has been so distributed as to make it available to consumers in all parts of the country not otherwise properly supplied. On the whole, the California Fruit Growers' Association has accomplished wonderful results, notwithstanding the fact that its activities border very closely upon a violation of the principles laid down by the Sherman Anti-Trust Law. The complicated machinery necessary to the most efficient production, transportation and exchange of any commodity of widespread or universal use is such as could only be accomplished by the highest and most complete organization of those engaged in the business.

The coal industry needs organization along similar lines. Its disorganized conditions are very largely responsible for many difficult situations which have arisen during the last two years concerning coal production, distribution and exchange. For many years the "open season" for coal organizations was continuous in the Department of Justice; then the exigencies of war required that the Government should demand of coal operators such unity of action as would have made them liable to penitentiary sentences if indulged in prior to the governmental requirement. When the powers which enforced this co-operation turned the coal industry adrift, chaos followed. Notwithstanding the ability of the bituminous coal industry to produce coal largely in excess of possible consumption, different sections of the country have been on the verge of panic for lack of coal, and all sections have been so agitated as to make the market price of coal far in excess of what it should be and would be had

proper co-operation been permitted in the coal industry.

The Committee on Commerce, Trade and Commercial Law of the American Bar Association, at its recent St. Louis meeting concerning the Federal Trade Commission and Anti-Trust Laws, recommended that "the law should be amended so as to give authority to the Federal Trade Commission to predetermine actions and give official advice in advance to a business organization as to whether its transactions fall within the prohibition of the Anti-Trust Law." The experiences of the past few years have demonstrated the efficiency of large business units and the necessity of smaller business units being allowed to so co-operate as to compete upon an equal basis with the larger units in supplying the wants of the public. Competition is the life of business. Unregulated competition leads to large units having all the powers which the Anti-Trust Laws were supposed to prohibit. An authorized co-operation between smaller units will make possible proper competition by which small and large units may compete fairly in the open markets of the world.

CLOSED SHOPS

There are two kinds of closed shops—one in which the door is closed against non-union men; another in which it is closed against union men.

In that bitter industrial contest known as the Cripple Creek war a sympathetic strike was called to enforce the closed shop against non-union workers by stopping production of ore which was being treated by a mill operated by non-union workers at Colorado City, many miles away. The result of this contest was the loss of many lives, the destruction of much property, and finally resulted in a different order of closed shop—one in which the door was closed against union workers.

The recent street-car strike in Denver has resulted in the destruction of much property, the loss of six lives, the wounding of many others, and will result in an

open shop where the closed-shop principle applied before. **The right of any citizen to accept employment and earn a living for himself and family without reference to membership or non-membership in a labor union is a right which cannot be successfully disputed.** The adoption of this fundamental principle means an open shop. Labor unions insist that union men cannot work side by side with non-union men, and that the open shop is therefore impractical and impossible except by the sacrifice of labor unions; that if no advantage shall accrue to the member of the union it would be useless to expect him to pay dues, without which the organization could not exist. THE MINING CONGRESS JOURNAL does not believe this to be true. A labor union, without insisting upon a closed shop, may render many and valuable aids to its members. The contributions required would be very much less, and its services might be even more valuable were it spared the expense necessary in its contention for the closed shop.

The first serious objection to the closed shop is that it denies the right of citizens to earn a living and at the same time maintain their independence of action.

Second, it destroys efficiency in management, in that the workman may rely upon the union to protect his job rather than the good-will of his employer, which, as a rule, depends upon the value of the service rendered. A decrease in efficiency of service means an increased cost of living, which necessarily reacts upon the worker and reduces the purchasing value of his wages. Labor unions have accomplished much of good. They have, directly and indirectly, been responsible for very much of harm. The contest for the closed shop has resulted in enormous loss of wages, enormous destruction of property, enormous loss of life. These great losses were the result of the exercise of power without responsibility, which cannot be exercised without jeopardizing the stability of the Government to which both employer and employee must look for the protection of their liberties.

TRUTH ABOUT THE FARMERS

The American Federation of Labor has from time to time publicly proclaimed that the farmers' organizations of the country were combined with the American Federation of Labor in the present political campaign. Unless the Farmers' Equity Association and the Non-Partisan League shall be counted as farmers' organizations, the assertion is incorrect. Real farmers' organizations do not consider such associations as anything but political, radical, union movements. The following editorial from the *Agricultural Review*, official organ of the International Farm Congress, and published in Kansas City, gives a more exact statement of the attitude of the farmers regarding affiliation with organized labor:

"This much has been demonstrated conclusively by the numerous meetings and conferences of the farm organizations throughout the United States recently:

"1. The farmers are opposed to Government ownership or operation of public utilities, or the 'nationalization of industries.'

"2. The farmers will not resort to the strike as a means of compelling people to pay higher prices for their products. They may restrict the production of a commodity of which there is a surplus, but this merely means an increase of some other and needed commodity.

"3. The organized farmers will not enter into any agreement with organized labor designed to enforce arbitrary demands upon the general public.

"4. Farmers will not look with favor upon any vocational political plan or movement.

"5. The farmers are organizing more strongly than ever before, and will use all their means to protect their interests. The various farm organizations are going to co-operate, but not consolidate.

"There are a few farm organizations who do not see things in this light, but they are local or sectional in scope, or political in character. Their membership and influence is comparatively small."

UNREST AND PROGRESS

It is unfortunate that the most valuable of life's lessons come through bitter experience. Every effort for better conditions must necessarily break through a crust of resistance. Every high development comes as a result of persistent effort, and usually the more strenuous the

opposition, the more valuable the result obtained by its overthrow.

The industrial unrest of the world is not altogether a calamity, even though here and there by mistaken effort it shall produce a calamity. The word freedom has ever been a call to which all subscribe and most people rally, but experience demonstrates that in the civilized world there is no freedom without restraint; there is no desirable freedom except there be forces by which that freedom can at all times be protected. In other words, a government upon which we may rely for protection and to which we shall surrender such freedom as interferes with our neighbor's right must be maintained. The breaking down of an established government is a serious matter which more often than not results in disaster for those who undertake its overthrow. Upon the other hand, great advances toward human liberty have been accomplished by the overthrow of the then constituted governments wherever a better government has taken its place. It is difficult for the average citizen of this country to believe that the terrible convulsions which now affect Russia can lead to else than disorganization, and perhaps to anarchy; and yet it is barely possible that the turmoil, disaster, starvation and want which have been suffered in that distracted country will culminate in a stable government, the greatest earthly blessing of the human race.

PICK THE PICKETS

Toledo, Ohio, has a judge who is certainly direct in his methods. Toledo, you will remember, has suffered disastrously from strikes. The unbroken strike against the Pope Motor Car Co., almost twenty years ago, drove from Toledo all the motor-car companies which would have made this ideally located industrial and transportation center the center of the motor industry rather than Detroit had they not been deterred by the triumph of the strikers, who closed and bankrupted the Pope works.

When the Willys-Overland Company,

which has as the nucleus of its plant the old Pope factory, underwent a similar strike this year, the strikers appealed to Judge Killits for permission to picket the works. The Judge granted this permission, with the proviso that he be allowed to pick the pickets. These pickets were forbidden to interfere with the orderly going and coming of the working employes of the motor company. They were placed at the gates to preserve order, and none of the usual brickbats or epithets were in evidence. As a result the strike was short-lived, and the works are now running full blast—a most encouraging sign in a town when the reverse has been the usual outcome.

FINANCIAL REVIEW OF THE MONTH

In a market weak and dull all prices sagged steadily through the first part of August until August 9, on which day many industrials made new low records for the year, U. S. Steel common getting as low as 83 $\frac{7}{8}$. General Motors also got under 20 on this day. As this was the heaviest day's business of the month, it bears out the suggestion of last month that any large volume of business would have to be on a downward scale.

This rapid decline was particularly noticeable in the oil stocks. While the Mexican stocks were the strongest, those of companies whose largest holdings were within the United States depreciated rapidly, Middle States Oil dropping from its recent low average around 20 to 10 $\frac{5}{8}$ in one session, a loss of half its value. In the upturn which followed these low records, the forward movement was vigorously assisted by the announcement of the Standard Oil Co. of New York of a 200 per cent. stock dividend. This caused a large advance in all the Standard Oil group, and other oils advanced in sympathy.

The gradually increasing favorable sentiment in the rails helped to bring the market back from these low levels by varying degrees until at the close of the month Steel is hovering around 90, and Baldwin Locomotive from its low of

100½ on August 9 advanced to 110, which price did not hold, however, dropping back to 106 to 107.

There is no question but that while the effect of the Polish situation on the market was largely a sentimental one, the removal of the Red menace from Warsaw helped to stimulate the price advance which set in after the first half of the month.

The general trade conditions show a slight change for the better, and the demand for money to carry the crop movement has not yet reached its peak. The new offering of Treasury certificates came as something of a surprise to the banking interests, and it is apparent the Government is calling for this money to avoid putting a further strain on the resources of the country during the heavier crop movement later in the fall. These certificates are under date of August 16, running a year, and bear interest at the rate of 6 per cent. The improvement in transportation has assisted the outlook for fall crop movement as much as the drastic Federal Reserve policy.

It is apparent that if the reason for the policy of the Federal Reserve System has been to lower the volume of Wall Street loans, its purpose has been accomplished, because Wall Street loans were never so liquidated as they are at present. They are not only much smaller than the volume of loans prior to the World War, but in relation to the value of securities traded in Wall Street they are lower than they have been in fifty years, possibly lower than they have been since the Civil War.

Commodity prices are steadily decreasing, the decline in wheat, sugar and coffee having been spectacular during the past month. There is no prospect of easier money rates on any increased volume of business on the street, however, until after the end of the crop movement in the fall.

The credit position as a whole is slightly improved. The sentiment toward the credit position is more so. But both the credit position and the sentiment will

have a heavy burden to bear in the fall crop movement. The credit reserves for these movements are certainly not large. To imagine that the West can handle this crop movement without the aid of Eastern financing is to imagine a crop production of one-third of our present yield, which in almost every item will be one of the largest in history.

When distributed, this immense crop will mean prosperity, as it will result in a disbursal of funds among the producers and the lowering foodstuff prices among the consumers.

The stockholders in many industrial companies are due for a slight shock on reading the next fiscal statement. The reduction of inventories with the shrinkage in value, particularly in companies having large stocks of leather, woolens and non-perishable foodstuffs, will cause some losses in the profit and loss statement which will not be pleasing.

The motor companies issue reports of entire absence of depreciation in this industry. While it is true that there is no danger to the motor industry, yet at the same time their steel orders indicate that they are not doing the business they had planned on for the current year. The prices of motor cars show no offset, nor can any great cut in price be expected until their basic metal components have further declined.

The factors showing improvement are:

Transportation.

Foreign affairs.

Credit.

Crop conditions.

The factors to offset any material present advances are:

Decreasing commodity prices.

Decreasing foreign demand.

Necessity of funds for crop movement.

Increasing imports.

Increasing foreign competition.

COMPLEX AND SIMPLEX TAXATION.

This issue of THE MINING CONGRESS JOURNAL contains the first of a series of articles on Federal revenue law revision.

prepared by the Chief of the Tax Division of the American Mining Congress. The general sales tax is discussed.

The process of eliminating the excess profits tax and substituting a generally acceptable code is not a simple task. As a matter of fact, the terms "simple" and "equitable" in the actual practice of collecting taxes are found to be contradictory. It is now quite apparent that a "simple" tax which will produce sufficient revenue to meet even half of the Government's fiscal requirements cannot be attained without causing serious inequities.

The business structure of this advanced nation of ours, solid as its foundation, has expanded into a labyrinth of delicate and easily disturbed mechanism. Experience with the recent revenue laws has demonstrated that a system of taxation theoretically simple can carry in its wake, if not actual business destruction, a profound disturbance of economic welfare. However attractive the attainment of sweet simplicity, the application of a single smooth principle to billion-dollar taxation precludes any dependable degree of equitable assessment unless the process thereof is by law so constituted that latitude and elasticity are specifically provided. This raises certain complications and administrative difficulties, but more or less involved provisions for relief from exceptional hardship will always be necessary to restrain sharp practices. It does not mean, however, a repetition of the intellectual sufferings provoked by the excess profits tax.

There is some hope for modification and simplification of even the underlying features of the income tax, which has such equity of principle and in the complete analysis such relative equity of operation that dependence upon it for a fair proportion of revenue will continue. The adoption of additional excise taxes and the stabilizing of rates will undoubtedly provide means of eliminating some complex ramifications of the income tax heretofore necessitated solely because of

their temporary large revenue-producing functions.

It is to be regretted and acknowledged with reluctance that the results of searching investigation of probable effect has robbed the sales tax, most discussed of new proposals, of much of the simplicity and equitable effectiveness claimed by its advocates. It may yet be adopted in some modified form, but in any event the trend should be toward practicability and equitableness, and last but not least the instant obliteration of anything that smacks of temporary expediency. The economic urge toward standardization is applicable to taxation by the Government of the United States.

UTAH CHAPTER RATE PROTEST HEEDED BY STATE COMMISSION

Following the filing of a protest before the State Public Utilities Commission by the Utah Chapter of the American Mining Congress, the commission announced a decision that the 25 per cent. increase applied by the Interstate Commerce Commission to all interstate shipment in Mountain-Pacific territory would not be levied against coal and ore shipments wholly within the State of Utah.

The refusal to grant the increases sought by the railroads was the direct result of the united action of Utah operators speaking through the Utah Chapter of the American Mining Congress. The Utah Chapter protested that increased rates, especially on low grade ores, would close many mines in the State.

The case was brought before the commission by the railroads, who asked that the recently authorized interstate rates be made effective on intrastate shipments. Except as to ores and coal, the petition of the carriers was granted by the commission.

A. E. Wells, engineer of the Bureau of Mines, who is recognized as an authority on the subject of smelter fumes, has been assigned to handle non-ferrous problems which have reached a semi-commercial stage. In the words of Dorsey A. Lyon, supervisor of stations, he will "translate laboratory results into commercial work." His experimental and research work will be conducted on a semi-commercial scale at commercial plants. His first work, in connection with the volatilization of low grade oxidized lead and zinc ores, and upon the performance of which he has already entered, is in co-operation with the Yellow Pine Mining Co., Good Springs, Nev., which work has been developed up to its present stage by members of the bureau's station at Salt Lake City, under direction of Superintendent Thomas Varley.

THE McFADDEN BILL—H. R. 13201

NOTE.—In a letter to Congressman Benjamin K. Focht of Pennsylvania, Secretary of the Treasury Houston reiterated his opposition to the McFadden Bill authorizing payment of a premium for newly produced gold and levying an excise tax on gold used in manufacturing, describing the measure as one designed to subsidize the gold-mining industry. H. N. Lawrie, economist and chief of the Department of Precious Metals and Rare Minerals of the American Mining Congress, in addresses delivered before the gold producers and bankers of California, Colorado, Utah and South Dakota, and in interviews sought by leading financial publications, has defended the McFadden bill as one essential to the maintenance of an industry indispensable to the financial security of the nation. The following review of this legislation by Mr. Lawrie, in which he forecasts early passage of the bill, is a complete exposition of its purposes and methods of accomplishment.

By H. N. LAWRIE.

Legislation designed to protect the monetary gold reserve of the United States from industrial depletion probably will be enacted at the next session of Congress. The bill introduced in the House of Representatives by Representative Louis T. McFadden of Pennsylvania, chairman of the Banking and Currency Committee, has been reported upon favorably by the Federal Legislative Committee of the American Bankers' Association and many financiers regard the legislation as necessary to correct a situation which is menacing to the financial security of the nation. The McFadden bill creates the machinery whereby the industrial consumers of gold may pay more nearly the cost of production for their raw material and in no way affects the monetary status of gold. The jewelers and other consumers of industrial gold are now being subsidized by receiving their raw material from the mint at the prewar price.

A free gold market is maintained under the provisions of this bill, for the reason that the excise is collected upon the manufactured article as sold, and not upon the bullion. The consumers of industrial gold will continue to purchase their raw material from the mine at the free gold market price of \$20.67 an ounce.

This bill does not change the number of grains of gold in the dollar, and, therefore, does not change the monetary unit.

Value of Dollar Shrinks.

Compared to 1914, purchasing power of the dollar, in terms of all commodities as compared to 1919, was 47 cents. The gold producers' ounce in 1914 had a purchasing power of \$20.67, whereas during 1919 it could purchase in terms of all commodities but \$9.70.

This is the most important reason why gold production in the United States declined from \$101,000,000 in 1915 to \$58,500,000 in 1919, and from present indications will probably still further decline to not to exceed \$40,000,000 during 1920.

The McFadden bill is a revenue producer and lessens the tax burden on the public. Had it been in effect during 1919, it is estimated a revenue in favor of the Treasury and in excess of expenditures provided under the act would have amounted to \$14,000,000. From present indications it is probable the production of new gold will not exceed \$40,000,000, and from record of sales of gold for consumption in manufactures and the arts it is probable \$90,000,000 of gold will be consumed for industrial uses this year, which would create a balance in favor of the Treas-

ury of \$25,000,000. Since the tax is imposed on consumers of industrial gold, it does not fall on the public, but largely on consumers of jewelry, a luxury, who will pay more nearly the cost of production for their raw material, thereby lessening the subsidy they now enjoy.

Immediate Relief Needed

It is important to keep the gold mining industry alive, for fear that with the greatly reduced production there will be difficulty in retaining the gold standard during a popular campaign for credit restriction, accompanied by declining prices. The gold mining industry will be completely shut down unless constructive aid is provided without delay. Continued depletion of the gold stock by excess exportation and industrial use will seriously impair the public confidence in the nation's finance and currency unless a normal gold output is assured.

If a healthier gold mining condition prevails during the period of currency deflation public confidence will be unshaken and a world financial crisis will be averted.

If the gold mining industry is permitted to

shut down, it will take years to develop a normal output at a very much greater cost. The time to act is now, before the industry becomes dead and deep mines are filled with water.

In reply to the opposition of the Treasury Department, Representative McFadden said to the Committee on Ways and Means:

No Subsidy for Producer

"Treasury officials have taken a premature stand in opposition. Secretary Houston has stated that he objects to the premium proposed because it constitutes a subsidy, to which the Treasury is ever opposed. Evidently he does not realize he is subsidizing consumers of gold in jewelry and for other industrial uses to a larger extent than the premium proposed. There is no net subsidy to the producer under this act.

"The secretary appends a report by a committee, at head of which was Albert Strauss, former member of Federal Reserve Board, who opposed any stimulation in production of gold, saying a checking in production had been occasioned by war causes, which would disappear as the war receded further. Economic pressure experienced by the gold-mining industry with attendant high prices for labor and material would cure itself in time.

"The war is vanishing into the past, but for all that prices for material and labor have greatly increased since the armistice and pressure on the gold-mining industry is even greater than at that time. Furthermore, when this report was prepared there was an embargo placed on exportation of gold and restrictions with reference to its industrial use. Since presentation of this report the embargo has been lifted and restrictions removed, thereby occasioning a loss to the monetary gold stock of the United States of \$445,800,000 from May 1, 1919, to May 1, 1920, by excess exportation and consumption in manufactures and the arts greater than amount produced from our mines. Meantime the gold-mining industry is approaching rapidly the vanishing point. It is surprising to find any opposition in the Treasury based on such premises. It is complaining of its huge deficits. The excise proposed will be collected at no considerable expense to the Treasury. The excise will not only pay for the premium, but will leave a substantial balance of \$15,000,000 or \$20,000,000 annually, to be paid into the general fund of the Treasury.

"In a letter submitted by California Metal & Mineral Producers' Association to the Railroad Commission of California, Secretary Houston, on April 1, 1920, stated the following:

"The Treasury would, under present circumstances regret to see any steps taken tending to interfere with production of gold, which even now is on a much diminished scale. It is, of course, impossible for the Treasury to judge of the respective importance of con-

licting needs of your community for power, and it must, therefore, confine itself to the statement that it would regard as unfortunate anything that would further curtail gold production."

"I would only ask that this letter be contrasted with the statement in the later letter by the Secretary.

"If the Treasury regard the declining gold output as unfortunate, and are opposed to constructive relief afforded in this bill, they should present a proposal which would effectively maintain a normal gold production during this period of economic stress."

World's Machinery Oiled

Decidedly the most noteworthy feature of the petroleum situation as reflected in an analysis of production and consumption for the first six months of 1920 is the increased production and consumption of lubricating oils. Such an increase means literally that the "wheels of commerce" have begun to grind again. It signifies beyond dispute that reconstruction is going on apace both in Europe and America.

Exports of lubricating oil showed an increase during the first six months of 1920 four times greater than the increase of the first half of 1919 over the comparative period of 1918. Domestic consumption of lubricants was even more satisfactory, for whereas there was a decrease during the first half of 1919 as compared with 1918, there was a considerable increase during the first half of the current year not only as compared with 1919, but also as compared with 1918, when American factories were all busy on war orders. American industries reached the peak of their production while filling war orders, and the fact that American factories were consuming more lubricating oil during the first half of 1920 shows conclusively that production was going forward by leaps and bounds.

The figures offered by the Bureau of Foreign and Domestic Commerce show 639,044,311 gallons of lubricating oil, stock on hand January 1, 1920, and production for the first six months, as compared with 548,757,787 gallons in 1919, and 546,120,973 gallons in 1918, with exports of 206,015,840 gallons, and domestic consumption of 206,505,804 gallons in 1920, as against 147,695,436 gallons exports, and 224,313,032 gallons domestic consumption in 1919, and 127,104,845 gallons exports and 259,040,187 gallons domestic consumption in 1918.

New Mine Rescue Truck

The Bureau of Mines is having constructed the most complete mine-rescue truck ever made. Its interior arrangement will be such that rescuers can move about without any inconvenience and can handle a larger number of injured people on stretchers more easily. The Bureau now has ten mine-rescue railroad cars and six automobile trucks. The new truck will be the seventh.

DEVER CONVENTION TO BE BUSINESS GATHERING

The preliminary draft of the official call for the twenty-third annual convention of The American Mining Congress has been submitted to the directors for consideration and early release to the public. In past years it has been the practice of The American Mining Congress to invite the chambers of commerce, local and State officials to appoint groups of delegates to the Mining Congress Convention. This year, owing to the peculiar conditions pertaining in industry affecting production, marketing, development and labor, and the legislative program in Congress, the directors of the Mining Congress have considered the advisability of limiting participation in the Congress to producers of minerals, oil, coal and those financially interested in these projects. The twenty-third annual convention will therefore be a purely business meeting so organized that its discussions can be frank and open and its conclusion practical and concrete.

The official call, which will be published in the October issue of THE MINING CONGRESS JOURNAL, will provide for national conferences on taxation, standardization, industrial relations, legislation, gold, war minerals, petroleum, coal, flotation, etc. The first national conference to be called by the newly organized division of Schools of Mines and Metallurgy will hold two or three sessions. The organizing committee for this section consists of Profs. G. M. Butler, Tucson, Ariz.; F. C. Lincoln, Reno, Nev., and Francis A. Thompson, Moscow, Idaho. This committee will issue a special call inviting the officers, faculty and trustees of all schools of mines, metallurgy and engineering, State directors, inspectors and commissioners of mines and mining to meet together on this occasion for the purpose of considering the general welfare and progress of the educational movement in connection with mining and getting better acquainted with the operators themselves.

The flotation conference will be the first national meeting ever called by users of the flotation processes. At this conference not only legal, but technical and mechanical developments in connection with this method of ore recovery will receive attention.

Probably one of the most important divisions of work during the Denver convention will be the National Conference on Standardization, which will be called by a special committee on organization representing the permanent Standardization Committee of the American Mining Congress. Decision will be made later as to what extent the discussions shall be carried, but it is probable that the national conference will include the standardization of

mining machinery and equipment, methods of production, handling of labor, transportation, marketing and accounting.

An international conference on Mexican-American relations will call together a large number of representative business men from both countries for the purpose of discussing a basis of settlement of political and commercial problems which have long existed and making possible more satisfactory co-operation between the two peoples.

Assurances have been received from the officials of the National Association for the Protection of American Rights in Mexico and from Dr. Fernando Iglesias Calderon, Mexican High Commissioner in Washington, that there will be full and complete co-operation internationally. There will be assembled a sufficient number of representative business men to consider an intelligent and satisfactory program for presentation to the Governments of both the United States and Mexico, a program by which the long-existing and perplexing conditions may be adjusted.

An advisory committee is now being selected to pass upon the program, and, following the very constructive and helpful suggestion of Editor Spurr of the *Engineering and Mining Journal* some months ago, an effort is now being made to find a plan under which there can be a preliminary organization of a Resolutions Committee which will give thoughtful consideration to suggestions which may be placed in their hands previous to the convention in Denver. This latter suggestion, now being considered by the directors of The American Mining Congress, will be a revolutionary movement so far as conventions are concerned, but, owing to the fact that The American Mining Congress is now the recognized mouthpiece of the mining industry, and that its resolutions when presented to the public and to legislative bodies are given careful consideration, it is believed that there should no longer be followed the old plan of haphazard and hurried consideration of the various important suggestions which come before such a body.

From every viewpoint it would seem that President Wells and the directors of The American Mining Congress are organizing the twenty-third Annual Convention along lines which will assure the enlarged influence of The American Mining Congress in public affairs.

A request is made that all communications pertaining to the Denver convention, the various conferences to be held in connection therewith and the exposition, shall be addressed to Convention Headquarters, Albany Hotel, Denver, Col.

MISSISSIPPI VALLEY EXPERIMENT STATION GOES TO ROLLA, MO.

The new Mississippi Valley Experiment Station of the Bureau of Mines has been located at Rolla, Mo. Its laboratory and investigation work will be carried on at the Missouri School of Mines and Metallurgy. Its central offices will be located in or near St. Louis. The decision of Dr. F. H. Cottrell, director of the Bureau of Mines, to this effect has been approved by Secretary of Interior Payne.

For a long time the Bureau of Mines has desired to take up, in co-operation with the mining and metallurgical industry, those problems met with in the Mississippi Valley, where lead and zinc deposits occur. As is well known, the ores of this district are for the most part sulphide ores, and are ordinarily not difficult to treat. However, there are also large deposits of oxidized lead ores in certain districts of Missouri, and their mining and metallurgical treatment presents a serious problem. Concentration by gravity methods has been tried for years on these ores, and there are many thousands of tons of high-grade tailings, as well as crude ore, awaiting proper methods of recovering metallic values. Such being the case, the bureau will carry on such research and investigational work in connection with the treatment of these ores as will assist in the development of processes which will prevent their being wasted, due to the lack of a metallurgical process which it may be commercially feasible to apply to them.

TUSCALOOSA LANDS EXPERIMENT STATION FOR THE SOUTHEAST

The Bureau of Mines experiment station for the Southeastern district, including the States of North Carolina, South Carolina, Georgia, Alabama and Tennessee, has been definitely located on the grounds of the University of Alabama, with field headquarters and offices in Birmingham. Simultaneously with the announcement to this effect, Dorsey A. Lyon, Chief Metallurgist, stated that he hoped in time to see another station located somewhere in the South.

It was at first intended that this should be a non-metals station, but with its location decided upon, its exact functions remain to be definitely determined. George S. Rice, Chief Mining Engineer, and Dr. R. B. Moore, Chief of the Division of Mineral Technology, conducted the preliminary investigations which resulted in the location of the new station at Tuscaloosa, Ala. Dr. F. G. Cottrell, Director of the Bureau of Mines, left on August 23 for the Southeastern district to investigate the various problems confronting the new station, and he expects to make announcement during the week of September 20 of its exact functions.

Work at Tuscaloosa will be done under a co-operative agreement which has been entered

into by the Bureau of Mines and the University of Alabama. This agreement is similar to those which have been entered into between the Bureau and State universities elsewhere. The university will furnish living quarters for the station's staff in Comer Hall, and all necessary offices, including light, heat and power. The institution will also bear expense of alterations.

Such investigations as relate to Alabama problems will be under the joint direction of the Bureau of Mines and President George H. Denny of the university. The Bureau of Mines engages to spend about \$23,500 during the first year.

"RENO STATION CRITICISMS NOT JUSTIFIED," LYON SAYS

It is understood that there has been considerable disappointment in Nevada over the announcement that the work of the station at Reno would be confined to rare and precious metals. It was hoped that oil shale could be included in the work of this station. The objection raised caused Dr. D. A. Lyon, supervisor of stations, to issue a statement to the effect that "it will be impracticable for each station to attempt to give attention to all of the problems which occur in the district in which it is located. However, there may be many problems in Nevada which are more important to the State than those relating to rare and precious metals, but if each station were allowed to handle all the problems of the State there would be much duplication of effort among the experiment stations."

Dr. Lyon further states: "As for oil shales, the Bureau of Mines already has taken up research and investigation work at its station at Salt Lake and is carrying on special work in co-operation with the State of Colorado at Boulder. The results of experimental work, while done outside of Nevada, will be applicable to that State as well. With the bureau's limited appropriations and the necessity for having specialists for each line of work, it is important that each station devote itself particularly to one problem of the industry."

Marble in Guatemala

The American Consul at Guatemala City reports that the Guatemala Marble Mining Company is preparing to operate a marble quarry about 13 miles from the railroad station of Zacapa, which station is a little over 100 miles from Puerto Barrios, the nearest port from which the product may be shipped. The deposit is extensive, and though somewhat broken up in places, great quantities of sound marble are available. It is claimed that the marble is equal in quality to the best product of the Italian Carrara quarries.—U. S. Bureau of Mines.

ABOLITION OF EXCESS PROFITS TAX PRESENTS DIFFICULT PROBLEMS

By ROBT. G. WILSON

Chief of the Tax Division of THE AMERICAN MINING CONGRESS.

In addressing Congress last December the President expressed his trust that immediate consideration would be given to the problems of future taxation.

The Secretary of the Treasury has since informed the Chairman of the Committee on Ways and Means of the House that he contemplated with gravest apprehension the continued delay in a thorough revision and fundamental simplification of the income and profits taxes. "Public opinion," declared Mr. Houston, "has not awakened to the gravity of the consequences which are likely to follow a failure to simplify the law."

The revenue laws were not revised at the recent session. There is apparently no possibility of relief for the taxable year 1920.

The most that now can be expected is decisive action on the part of Congress between its assembly on December 6 next and its adjournment on March 4, 1921. Commencement of the task immediately upon convening is manifestly imperative. The new laws, to become effective during the taxable year 1921, must be enacted without further delay. There has been a surfeit of retroactive revenue legislation. Public opinion, mindful that occasion no longer exists for anomalous contrivances that have wartime expediency as their sole motive and warrant, is not likely to permit any considerable pre-enactment levies. Apart from this consideration is the more tangible fact that the substitutes for the present undesirable tax codes will be of a design that will make their retroactive application exceedingly difficult, if not actually impossible.

The business organism of the United States is too complex to permit any honest hope that more than a relatively equitable and simple tax, capable of meeting the now enormous demands of the Government, can ever be devised, but improvement by comparison is so essential, and, in fact, so feasible, that any political or other consideration which postpones the relief cannot be condoned.

The confusion, business harassments and economic effect have been increasing with such cumulative intensity that it is with genuine concern and uneasiness that both Government officials and the thinking public are viewing the multiplying dangers. There are many industrial and social problems in those days of economic stress and alien dogma that apparently must wait upon natural adjustment for their solution, but the contributive influence of unconscionable laws represents at least one factor in the situation that in large degree can be removed.

Relief in Sight

In connection with the possibility of early legislative action the most encouraging index

of relief is the preparation on the part of the business community for intelligent co-operation with Congress in accomplishing the task. In addition to the activities undertaken by the established trade organizations, new bodies are springing up nation wide, each bent upon research and study with the purpose of bringing to Congress practical programs supported by arguments so prepared as to permit assimilation and action within the allotted time.

There is, however, a certain danger here that these numerous, and in many cases fundamentally different, proposals will prove destructive of the very ends they aim to achieve, unless some effort is made to merge the principal recommendations into one comprehensive program. This is not impracticable, although there may not be sufficient time to effect a proper co-ordination of detail. However, one general plan of procedure, substantially representative of business at large and comprehending the exigencies which surround the individual taxpayer, may possibly be accomplished if the minor divergencies are carried in the form of alternatives. After all, the codes drafted by these organizations can

William G. McAdoo

I think the graded excess profits taxes are bad, whereas a flat or fixed one seems to me wise.

I do not think well of a general sales tax; it is a consumption tax. A consumption tax hits the man with a large family very much harder than the man with a small family, and it is generally the poor who have the largest families. There are some consumption taxes we can afford to pay—on luxuries, for instance.

Nor do I think it is feasible to concentrate entirely on income taxes. The welfare of all people of the country must be considered, and you reach the point in taxing a man's earnings where you destroy initiative and constructive enterprise.

James M. Cox

The profiteer and some of the highly capitalized units have used the excess profits tax as a favorite excuse for loading onto the consumer, by means of highly inflated selling prices, many times the amount actually paid the Government. . . . I believe that a better form of taxation than the so-called excess profits tax, may be found and I suggest a small tax, probably one to one and one-half per cent. on the total business of every going concern. It is to be understood that the term "business" as used does not include incomes received by wage-earners, salaried men, agriculturists and the small business man, who should be exempt from this tax.

Otto H. Kahn

The excess profits tax lays a heavy and clumsy hand on successful business activity. It is grossly inequitable in its effects, and, to a large extent, the greater or lesser degree of its burdensomeness is determined by purely fortuitous circumstances. It puts a fine on energy, enterprise and efficiency. It leaves untouched the man of wealth who neither works nor takes the risks and responsibilities of business, but merely collects his coupons. It is bound to operate unfairly, freakishly and unevenly, and greatly enhance the cost of things.

Woodrow Wilson

Simplification of the income and profits taxes has become an immediate necessity There is a point at which in peace times high rates of income and profits taxes discourage energy, remove the incentive to new enterprise, encourage extravagant expenditures and produce industrial stagnation with consequent unemployment and other attendant evils.

Warren G. Harding

I doubt if the excess profits tax for war precisely accomplishes the end we seek in peace. . . . Its operations have been disappointing, its costs multiplied and pyramided, and righteous changes and modifications ought to be sought at an early day. I would gladly recommend a change, but I am not yet prepared to suggest an equitable substitute, though I should have no hesitancy in asking Congress to seek the earliest possible solution.

be but recommendatory. Congress will have the decision, even though it cannot fail to give respect and consideration to such prominent and specialized talent as is now engaged with the most intricate subject in the history of Government.

Task is Difficult

It may be stated briefly and with easy confidence that the problem resolves itself into a revision of the income tax, elimination of the excess profits tax and substitution of as equitable and practicable a code as can be accomplished without sacrificing the primary purpose of providing the Government with essen-

tial revenue. But here simplicity ends. Even those associated with the drafting of the laws of 1917 and 1918, fortified as they are with that experience, cannot view with other than apprehension the difficulties again presented.

It is to be remembered that the excess profits tax was finally adopted only after exhaustive consideration of every device and principle of taxation known and conceivable at the time; the present task requires the exercise of new ingenuity, as well as reconsideration of proposals then rejected as impracticable. Every effort will or should be made to enact by the next legislation a code that will stand funda-

Daniel C. Roper

It would be a long list, indeed, that would describe the uneconomic, unhealthy and repressive, and often unsavory business practices that are engendered by this condition. Experience has demonstrated the desirability of thoroughly revising the excess profits law as quickly as possible and of enacting new legislation which will produce needed revenue without such deterring effects upon industry and thrift, and without such delays in getting the money which is owing to the Government into the Treasury and which is overpaid back to the taxpayer.

H. N. Lawrie

That the excess profits tax has since the armistice operated to limit the investment of new capital in the expansion of the nation's industries is evidenced by the fact that during 1919 the physical volume of our industrial output was less than for any year since 1916. This serious limitation of the creation of new wealth upon which depends the nation's ability to liquidate its war obligations and enter upon a period of progressive reconstruction should be eliminated at the earliest possible date by the repeal of the law and the substitution therefor of a constructive and relatively simple system of tax income collection, which will be equitable in its application to the varied interests involved.

Jules S. Bache

I believe that the taxes of this country in their present form are in a great measure responsible for the high living costs, and the restiveness of labor.

Carter G. Glass

The excess profits tax encourages wasteful expenditure, puts a premium on over-capitalization and a penalty on brains, energy and enterprise, discourages new ventures and confirms old ventures in their monopolies. In many instances it acts as a consumption tax, is added to the cost of production upon which profits are figured in determining prices, and has been and will, so long as it is maintained upon the statute books, continue to be a material factor in the increased cost of living.

David F. Houston

It impresses me as indisputable and conclusive that the application or calculation of the excess profits tax is so complex that it has proved impossible to keep up-to-date the administrative work of audit and assessment. New returns are being made faster than old returns can be audited, resulting in an accumulation of claims and potential back taxes, the dangers of which have been described.

Public opinion has not yet awakened to the gravity of the consequences which are likely to follow a failure to simplify the tax law. . . . I cannot contemplate delay without gravest apprehension. . . . An imperfect and uncertain tax affects the future even more adversely than the present.

William B. Colver

Experience seems to have demonstrated that the excess profits tax is one of the foundation stones upon which the present intolerable price structure has been reared, and which works such hardship both upon the consuming public and so of course upon the business public.

mentally for at least several years. The public is fed up not only with retroactive imposts, but with constant and radical changes in methods and rates.

It is fortunate for the House Ways and Means Committee that it will have the benefit of the intensive study and substantiated recommendations of the organizations now engaged voluntarily in the difficult preliminary work. It is not an exaggerated belief that without the efforts of these bodies Congress would be prevented from effecting any appreciable relief at the next session, or prevented from enacting anything other than a hastily concocted

substitute that probably within a year or two would necessitate further redrafting, with all the attendant evils suffered by the nation in the interim.

Divergent Proposals

A few concrete proposals, representing the best thought of intelligent business men and involving all the niceties of judgment displayed by economists and statisticians of repute, will prevent a repetition of the tedium and delays which attended the hearings by the House Committee in 1917 and 1918. But these proposals must comprehend at least a rela-

tive degree of accord in fundamental principles. It is the danger that there may not be sufficient time to bring about this singleness of object that today occupies the minds of many of the revisionists.

There is unmistakable evidence of a rapidly-widening breach between the revision advocates who have confined excess profits tax substitutes to a general sales or "turnover" tax at a low flat rate, and the proponents of a mixed code which either largely ignores a general sales tax or limits it to a list of selected commodities and depends mainly upon new and enlarged excise taxes with increase of both the individual and corporation income tax rates. It is, in fact, not unlikely that this divergence may ultimately be found in the House Committee, even perhaps in Congressional debate, as the principal taxation issue. Two broad principles are involved, the wider per capita distribution of the cost of Government and the extension of the existing large dependence upon the doctrine of ability to pay.

Objections to Sales Tax

It is not to be ignored that many of the revisionists who originally favored a general sales tax have recently reached the conclusion that it does not present a satisfactory substitute. The premises upon which they base their decision have been carefully considered, and while they are reluctantly and disappointingly received because of the rejection of what appeared to be the simplest and most prolific source of revenue, there is no gainsaying the comparative soundness of many of the objections.

Many forms of a flat-rate sales tax have been offered. The most important may be divided into three main groups:

1. Tax on every sale or turnover of commodities, services, real property, capital assets, etc., and on rent and interest.
2. Tax on commodities only, limited to goods, wares and merchandise.
3. Tax on commodities for final consumption or use.

The opponents of the general sales tax base their position upon the following brief summary of objections:

A general sales tax borders upon a tax upon gross income. If it is not shifted in its entirety it becomes a tax on gross income. Industry in many instances will be unable to shift the tax to the consumer, or in any event will be unable to pass it on until after several years of readjustment. A gross income tax is not less burdensome than a net income tax. If it is true that the sales tax in its burden upon industry would be insignificant compared with the excess profits tax, the tax if not shifted must be paid in large part by unsuccessful business enterprises, which do not pay a profits tax.

If concerns which are not making a profit are obliged to pay a sales tax, it is not reasonable to suppose that they can shift it any more than they have been able to shift other items of cost with a profit added. If any great proportion of the billion or more dollars that it is stated could be raised by a general sales tax could not be transferred the result would be disaster. Even though eventually such a tax might be passed on in its entirety there would be a transition period of several years, during which in many cases it could not be shifted or shifted only in small part.

To summarize, the assumption by sales tax advocates that the burden would almost invariably be borne by the ultimate consumer or user is, in the opinion of its opponents, not warranted by the fact that the extent to which the excess profits tax has been shifted is still in dispute, the nation is gradually passing from a seller's market to a buyer's market, there are in every industry certain marginal concerns unable to pass on immediately an added expense of any sort, and that many unforeseen complications inevitably result from any legislation vitally affecting economic conditions.

Further, inasmuch as in some industries the net profit does not average more than 2½ per cent. or 3 per cent. on the turnover, even a slight difference in the percentage of the tax on the turnover would cause a substantial difference in the percentage on net profits. In 1917 the total gross income of manufacturing corporations was \$40,437,000,000, and the total taxable net income was but \$5,736,000,000. The total gross income of trading corporations was \$19,804,000,000, and the total taxable net income was \$1,481,000,000. Assuming that the gross income did not greatly exceed the total sales, a tax of only 1 per cent. upon the gross would be equivalent to 7 per cent. on the net in the case of manufacturing corporations, and to 13.4 per cent. on the net in the case of trading corporations. These percentages are average. In some instances they would be lower, but in others considerably higher.

The indicated result of a sales tax of only 1 per cent. would be the much discussed pyramiding to the extent of 2 per cent. or 3 per cent. on the final turnover, which in itself might not be objectionable, but equivalent in many instances to as high as 50 per cent. or 75 per cent. of the net profits. Another aspect is the inequity resulting from the fact that while one business may have a normal turnover of capital several times a year, another may fully utilize its capital but once in several years; a 1 per cent. sales tax in the former instance is conceivably liable to become more than the entire net income.

Advantages to Integrated Business

Analysis of concrete cases, it is held by the opponents of the sales tax, indicates fairly conclusively that the advantages which would be given by such a form of tax to enterprises

carrying on several consecutive processes in the manufacture or distribution of a commodity over other concerns not so self-contained, due to the pyramiding effect of a tax only on each actual sale, would be more than exceptional. The claim by proponents that the pyramiding effect of a turn-over tax would apply to only a limited number of enterprises is, it is now declared, not substantiated by investigation; further, that the premium thus placed upon synthesized business would not be small in comparison with the inherent advantages it already has, or at least there is no definite proof that such would be the case.

While it has been held by authorities in favorable comment that a universal flat-rate tax would in five years revolutionize present methods of doing business, the opponents of the sales tax submit the question whether business men should look with equanimity upon any device fundamentally changing practices that have proved their economic soundness by surviving the stress of competition.

Administrative Difficulties

Authorities who have long contended with the difficulties of excise taxes seem almost unanimously of the opinion that a general sales tax would involve serious problems of administration. The number of taxpayers would be so enormously increased that it would become a task of huge proportions to prevent wholesale evasions, with the practical certainty of a relative decrease in the percentage of present collections.

The difficulties experienced by the Bureau of Internal Revenue in organizing and maintaining a force sufficient to administer the present revenue laws are familiar. A vast number of returns remain unaudited and many of the tax cases arising under the 1917 Act are still unsettled. A genuine embarrassment is imminent if the new laws demand a reorganization and enlargement of the existing administrative machinery, such as would be required by a general sales tax. It is essential to the success of such a levy that it be properly and adequately administered from the beginning, but the difficulties in the way of organizing a sufficient and qualified personnel are so great as to constitute an important practical objection. The devising of forms of returns and methods of collection would be simple, but the multiplying of returns, audits and investigations is a matter of no mean concern. Even with the elimination of the smallest businesses by establishing exemptions, millions of returns would be required.

A tax only on commodities for final consumption or use, with the fixation of a single excise at one point, does not overcome the objections to a tax on each turnover. The rate would necessarily have to be 3 per cent. or higher, and the effect upon retailers, for instance, with many turnovers, and in some instances no opportunity to shift the tax, would

be seriously inequitable, if not disastrous. The chief difficulty, however, is the impracticability of determining the ultimate consumer of ultimate user. A commodity purchased for immediate and final consumption in one case may be absorbed as raw material in process of fabrication in another. Innumerable examples might be cited.

Revenue Results Speculative

Estimates of the revenue to be provided by a general sales tax vary from \$5,000,000,000 to \$1,500,000,000, with a 1 per cent. tax on all turnovers, and down to \$750,000,000 for a 1 per cent. tax on the sales of commodities alone. The wide diversity of the several estimates of yield is presented by the opponents as evidence of the impossibility of accurate forecast. No absolutely authoritative or dependable calculations are available apparently, and the dangers of speculative error perhaps cannot be avoided. An actual yield considerably less than estimated would prove seriously embarrassing; a result appreciably larger than expected might induce an extravagant tendency on the part of Government and add unnecessarily to the already excessive fiscal burdens.

Whatever the faults of the present system of Federal taxation, a factor of not inconsiderable importance has been the remarkably close identity of estimate and realization. A new code that does not afford an opportunity for even an approximate computation in advance of actual yield, of course, carries with it all the disadvantages of at least one year of experimentation.

Politics?

It is declared by many opponents of the general sales tax that it presents too many collateral exposures to political considerations. Even if that fact should not defeat its enactment, it is held that it would give rise to a constant possibility of becoming injected into partisan politics.

There is no ignoring the strong industrial and class opposition that has developed in certain quarters. There may be mentioned the growing and significant opposition to a general sales tax on the part of the agricultural interests. At the present time the publicity given to definite programs for revision of the tax laws has not been sufficient to cause any organized manifestation of opposition to any of the proposals, but it is known that the representatives of many agricultural organizations have been instructed to vigorously resist the sales tax. There are further complications possible as a result of the interest labor is certain to take in any tax revision by which it becomes more directly affected.

It is fortunate that Federal revenue legislation has heretofore been relatively free from partisan and territorial influence. Any device or combination of devices intended to provide five billion dollars annually by taxation with-

out unnecessary hardship must necessarily be of more or less complex structure, for the flat-rate income tax, even with its complications, embraces too many tested principles of equity to permit of elimination. The unbiased judgment of specialists is demanded even in the fundamental drafting of a revenue measure, as well as in its administration. It will be fortunate again if the forthcoming revision can be accomplished by an equitable distribution of the levy without engendering considerations of political expediency, and without submitting the process to any avoidable claims of discrimination.

The Excess Profits Tax

The various organizations engaged in preparation for the revision of the tax laws are virtually all in accord upon one point, that of complete abolition of the excess profits tax. Investigation has resulted in the determination of innumerable reasons for the repeal of Title III of the revenue act now in force. The more important are included in the following brief summary:

1. Diminishing productivity. Future results are too uncertain to permit dependence upon the excess profits tax as a definite means of producing a given amount of revenue.
2. Difficulty and impracticability of administration. The time consumed by the Treasury Department in arriving at a final determination of a majority of the excess profits tax returns is far too great. It creates an uncertainty in the business world, which is harmful and unnecessary.
3. Discrimination between the various forms of organization for the conduct of business.
4. Penalty upon the conservative corporations with corresponding premium upon capitalizations inflated prior to 1917.
5. Unjustly classes the profit of a corporation above 8 per cent. as excessive.
6. The definition of invested capital upon which exemptions and the graduation of rates are based is highly artificial and fundamentally unsound. It also is extremely complex and difficult. It ignores real value which has been created by conservative business management and excludes appreciation which may be largely due thereto.
7. Creation of a condition of pyramiding. While the excess profits tax has unquestionably had a broad effect in increasing costs in many instances, in others it has not; the prevalent uncertainty as to its actual incidence in this manner only tends to give rise to further complications. The actual influence upon living costs is unknown, but the effect to some degree is indisputable.
8. Encouragement of extravagance. The idea has been created that inasmuch as from 60 to 80 per cent. of an expenditure would in reality be borne by the Government, excessive

expenditures were warranted. This feeling which became so well established in 1918 has tended to persist even under lower rates.

9. Hostility on the part of the taxpayer, engendered by complexity of the task of preparing returns. The effect upon the administration of the law is certain.

10. Unnecessary costs of compliance. It is estimated that the business of the country is saddled with an expense of from \$100,000,000 to \$200,000,000 in endeavoring to prepare correct returns of income and excess profits, a large proportion of which is due to the profits tax.

A digest of comment upon the excess profits tax from prominent sources is appended. Particular attention is called to the opinions of the three Secretaries of the Treasury under whose administration the tax has been levied. The accord of view is significant.

Conclusions

It would be bold and venturesome at the present time to predict with any confidence even an approximate tax code that will replace or revise the existing system. Nevertheless an analysis of many authoritative determinations and recommendations permits the following conclusions:

Abolition of the excess profits tax is virtually certain. Some modification and improvement of the operation of the income tax will be effected; there is little likelihood of a reduction in either corporation or individual normal income tax rates, in fact they will probably be increased. A tax upon undistributed profits of corporations, without exemption in order that the unstable factor of invested capital may be eliminated, is more than a possibility. Excise and stamp tax rates will undoubtedly be raised and new commodities of wide distribution subjected to imposts. Tobacco and tobacco products, save cigars, will carry increased levies; sugar, coffee and tea may be found excisable to the extent of one cent or two cents per pound. Expansion of the tax on many luxuries or so-called non-essentials is probable, with a special tax on automobiles and trucks, and it is not impossible the first class postage rate may go to three cents.

If a general sales tax as now presented is ultimately eliminated, a modification carrying a selected list of commodities excluding prime essentials of life or providing a tax only upon costs in excess of reasonable limitations, may provide the basis for an acceptable compromise between a general sales tax and an excessive extension of the existing income tax rates. The excise tax law of Canada, enacted July 1 last, is offered for serious consideration.

Note.—This is the first of a series of articles dealing with Federal tax revision. The second will appear in the October issue of *The Mining Congress Journal*.

MINING AND PETROLEUM DIGEST

Zinc

The *Metal Bulletin* of London, England, summarizes the zinc situation in that country in the following paragraphs:

"The market does not show any particularly bright spots as yet, and it looks as if the probabilities were that prices would drag on at somewhere round about their present level for some little time. Business with the consuming trades continues very disappointing indeed, and although there has been less heard recently of reselling on the part of galvanizers, there is a continued disposition to ask for postponements of deliveries. As a consequence, there is little real support for the market, and as it is believed there is still a fair amount of spelter to come out for sale in September and October, mostly metal which has been carried forward, there seems no very good demand to absorb this, although should prices be seriously affected, no doubt the metal would be regarded as a cheap purchase. So far as supplies are concerned, there seems to be plenty of metal in the country, while Germany continues to offer at around the parity of the market here, and the same remark may be made of Norway.

"A rather unusual feature is that Germany has been offering some parcels of Japanese spelter of a well-known brand—possibly from the Hatachi Maru, captured and sunk by the Emden during the war. At all events, spelter of this brand was on board the boat named."

A recent issue of the *American Metal Market* summarizes the zinc situation as follows:

Zinc is almost low enough abroad to allow of shipment to this country, including duty.

The market here holds firm at unchanged prices. The demand is not heavy today, but a fair amount of consuming interest is evident. The strength of the situation lies rather in the anticipated shortage that the continued idleness of the plants closed by strikes may bring about.

It is reported from the Far West that producers are almost bare of stocks of ore on account of car shortage. There is an oversupply of ore at the mines, but little in smelters' bins.

The rise in price has today brought out a few lots of August and September zinc in middlemen's hands, but dealers in general do not seem to have much zinc bought ahead, and are more inclined to be buyers at present than to discount the future market.

Copper Stocks

The position of several of the stocks of the large metal producing companies is exhaustively discussed in the *Financial World*. This journal has the following to say of the copper stocks particularly, which have moved somewhat at cross-currents with the average price quotations on other issues:

"Ten out of the fourteen standard copper securities on the New York Stock Exchange (all of many years' standing) have the past week or recently reached the lowest price levels since we entered the war early in 1917.

"Nine of the ten stocks were selling the past week at such new modern lows, or within a point of the low record, and thirteen of the fourteen were selling the past week at the lowest prices reached in the series of successively new low marks which began to develop ever since last November, or 'low on the present move.'

"Of ten standard, seasoned coppers on the Boston Stock Exchange, representing all the leading copper 'groups' in the Hub market center, six of the ten have the past few days reached new record lows since we joined the war, and four of the six new lows are not only the lowest since we joined the war, but the lowest since eight years ago; since the summer of 1912, long before the war was thought of. All ten have in the past fortnight reached new lows on the present move since the summer of 1919, and the past week nine of the ten were within a point of such new lows.

"A coldly dispassionate glance at the figures is convincing on the point that the coppers are very low in price; that they are on the bargain shelf; that the current lows are lower, speaking generally, than the lows reached after the armistice, or the very drastic lows reached in the late 1917 market collapse. The present lows compare with the ridiculously low prices at the lowest ebb on the exchanges in 1914 after the outbreak of the war in Europe, and in several cases are even lower!"

Situation Analyzed

The *Engineering and Mining Journal* prints an exhaustive analysis of the copper situation, of which the important features are as follows:

"The copper market is still in the doldrums. With the exception of the first three or four months of the year, when buying of copper occurred on an unprecedented scale, the copper trade has sunk into a lethargic state from which relief is not yet in sight. The table pre-

sented herewith records the statistical position of the metal.

"Export trade, which has been largely counted upon to assist the copper market in its troubles, has exhibited encouraging aspects. The figures indicate that despite financial difficulties European nations and Japan were factors in the copper market whose importance should not be underestimated. The net balance of exports over imports of copper was maintained in the varying monthly amounts indicated, with the exception of June, when a small adverse balance was recorded.

"Domestic smelter production of blister copper has not varied much—always within a few per cent. of the preceding month—and is at the rate of 1,415,000,000 pounds yearly, about 17 per cent. more than the pre-war rate of 1,210,000,000 pounds. Refinery production is also above the pre-war rate. Owing to the large stocks of crude copper on hand at the refineries, transportation troubles did not affect refining as much as expected.

"The estimates of sales into foreign and domestic consumption total about 860,000,000 pounds for the first half of 1920. Domestic deliveries of copper for the same period are estimated at 680,000,000 pounds. Exports were 373,000,000 pounds, a large portion of domestic deliveries and exports the conclusion of heavy sales in the latter part of 1919. The estimate of domestic deliveries or consumption would indicate a consumption of copper of 1,360,000,000 lbs. annually, or on a scale much larger than the pre-war rate of 741,000,000 pounds—almost twice as much, in fact. This is one of the most optimistic indications in the copper industry, and were it not for one other factor which seemingly the copper industry is unable to eliminate, the market would be in a highly satisfactory condition. This factor, of course, is the large stock of both crude and refined copper still on hand. Domestic consumption is doing its share, but enlarged buying from foreign quarters, from France, England, Italy, and particularly Germany, is necessary before any great inroads into surplus stocks can be made.

"On January 1, 1919, according to the United

States Geological Survey, there were on hand refined stocks amounting to 180,000,000 pounds and of blister copper 562,000,000 pounds. On January 1, 1920, there was 631,000,000 pounds of refined copper on hand and 310,000,000 pounds of blister copper, or a total of 940,000,000 pounds of copper. Let us say an average cost of 14 cents per pound had been expended upon this product, or a total outlay of \$131,600,000, which is quite a bit of capital to have tied up in unmarketed copper in these days of stringent credit facilities.

"The price of copper has in general moved in sympathy with the situation in the metal. The lowest average price for electrolytic this year was recorded in June (18.07 cents), but in comparison with the conditions' existing a year ago, with copper between 14 cents and 17 cents, the present averages are a pleasing comparison.

"The seriousness of the present condition demands emphasis. The United States, which is the world's leading copper producing country, is marketing a wasting asset at a cost but little above the cost of production. Every pound of copper sold diminishes by so much the nation's copper resources, which, although tremendous, are not of such a character as to warrant producing them and supplying the world at prices which represent an exceedingly small return. The obvious remedy that first comes to mind is to curtail production, thereby creating a smaller supply and easing the acute labor situation in other fields. In some cases such a step, by increasing the overhead expenses, might increase the cost of production. All producers have decreased their production drastically from war rates, and generally to the economic limit, refraining from a further decrease not only for business reasons, but for the certain measure of responsibility that they have toward the mining communities which depend for their existence upon the continued operation of the mines. Nevertheless, the situation is critical, and copper producers would be justified in forming plans whereby this valuable resource may be conserved to the best advantage and no one producer will take unfair advantage over his neighbor.

ANALYSIS OF THE COPPER SITUATION FOR FIRST HALF OF 1920—IN POUNDS.

Month	Crude Copper Production	Imports	Exports	Net Exports	Estimated Sales For. and Domestic	Estimated Stocks of Refined Copper on First of Mon.	Estimated Domestic Delivered	Average Price
January	121,900,000	34,220,000	49,630,000	15,460,000	239,000,000	(a) 631,000,000	500,000,000	18.92
February	117,450,000	39,170,000	57,600,000	18,420,000	89,000,000	612,000,000		18.57
March	120,310,000	28,870,000	88,030,000	59,160,000	320,000,000	585,000,000		18.33
April	116,080,000	21,950,000	64,390,000	42,440,000	100,000,000	520,000,000		18.66
May	114,360,000	44,860,000	83,280,000	38,420,000	62,000,000	469,000,000		18.48
June	116,670,000	31,510,000	30,100,000	(b) 1,410,000	52,000,000	456,000,000		18.07
Totals	707,370,000	200,580,000	373,080,000	172,500,000	862,000,000	185,000,000	680,000,000	
Yearly rate 1,414,740,000	401,160,000	746,160,000	245,000,000	1,724,000,000	.....	July 1	1,360,000,000	

(a) 310,000,000 lbs. crude copper in addition.

(b) Net imports.

Silver

The stabilization of the silver market by purchases through the Treasury Department under the Pitman Act has so stabilized the market that for the first time since last May silver is quoted above \$1 an ounce. The *Wall Street Journal* has the following article on the silver situation at present and of the possible future sales:

"For the first time since last May silver metal is quoted above \$1 an ounce. Foreign silver was quoted at \$1.01 $\frac{3}{4}$ on Friday, an advance of $\frac{3}{4}$ cents. Quotation at London on Friday was 63 $\frac{3}{4}$ d., up 2 $\frac{3}{4}$ d. Only recently Director of the Mint Baker, in commenting on conditions in the precious-metal market, said that the decline in silver was due to a lull in buying from China and India, but that he believed it would prove only temporary. Demand for silver continues large from the arts and for use in photography.

"If the recovery in silver to above the dollar mark proves lasting, it will have an important bearing upon the market, as it will mean that producers in the United States will again sell their product in the general market and cease making sales to the Director of the Mint at the fixed price of \$1 an ounce as established by the Pittman Silver Act. The Director of the Mint made his initial purchase of silver under the Pittman Act on June 17 last, when he bought 1,500,000 ounces. Since then purchases have been made almost daily, and the total purchased to date approximates 10,554,184 ounces. The Secretary of the Treasury announced last June that the department was ready to purchase 207,000,000 ounces under the Pittman Act, so that 197,000,000 ounces remain to be purchased."

Petroleum

In an extensive article in the *Petroleum Age* the possibilities in greater refinement and the preparation of motor gasolines from heavier hydrocarbons is exhaustively discussed. Some of the important factors in the problem and possibilities in their solution are as follows:

"There are several sources from which additional supplies of motor fuel may be expected. Benzol and toluol from by-product coke-oven plants may be blended with gasoline to give a very satisfactory product, while industrial alcohol represents a product to fall back on if necessary. Crude oil may also be derived from such kerogenous substances as oil shale, and there are enormous deposits of the raw starting material in various parts of the country, especially in Colorado, Wyoming and Utah, from which the crude oil may be extracted by low-temperature carbonization or a combination of this with ultimate high temperature effect in the presence of steam to recover the by-product ammonia.

"Petroleum consists essentially of a mixture of hydrocarbons which are in the main totally miscible with one another. Organic nitrogen and sulphur compounds also are present in

varying amounts, and occasionally oxygen compounds, as well as water and inorganic material in disperse form. When this complex of naturally occurring hydrocarbons is treated by dry distillation at atmospheric pressure, the hydrocarbons of lowest boiling point are vaporized first and come into the condenser, followed by those of higher boiling point as the temperature rises.

"Varying degrees of fractionation will obtain, depending upon the design of still and method of operation. From the point where gases first appear at the condenser outlet until the temperature in the still reaches approximately 625° F., the products secured are in the main natural—that is, they exist in the crude oil as such. Above this temperature, however, especially if the distillation is carried out slowly, what is known as 'cracking' takes place, and a distillate is secured which upon redistillation will yield more gasoline and kerosene, their quality, however, in most cases not being comparable with that of the natural products.

"Instead of carrying out the distillation above the 625 point at atmospheric pressure in an ordinary still, one of special design is substituted, and the operation, if conducted at a pressure varying from 50 to 150 pounds gasoline, profound decomposition or 'cracking' occurs, and a yield of gasoline of 15 per cent. or more, based on the original charge of residue, may be obtained upon 'rerunning,' or, in other words, fractionating the pressure distillate secured. The residue remaining and the pressure distillate which has thus been freed from gasoline may again be subjected to the process and a further yield of gasoline secured, this being less than in the first case, and decreasing upon subsequent treatments.

"This process of cracking is described as being a special application of the well-known phenomenon which occurs when organic compounds are heated to a high temperature, decomposition taking place and the molecules being broken down into compounds of lower molecular weight, even with the formation of the elements carbon and hydrogen.

"Again, if a sample of the same residual oil be placed in a vertical still having a fractionating column or 'tower' interposed between the still and the condenser, and the distillation is carried out at atmospheric pressure, with stirring, in the presence of anhydrous aluminum chloride, the latter acts as a catalyst to cause the decomposition of the oil into gasoline, giving a yield of 15 per cent. or more. This process is an illustration of the fact that chemical compounds, working at atmospheric pressure, may exert a result similar to pressure distillation.

"*Commercial Processes for the Production of Gasoline From Heavier Hydrocarbons.*—The various processes for producing motor fuel from heavier hydrocarbons may be roughly classified as follows:

"(1) *The Pressure Still.*—A 'two-phase'

cracking system. Examples are the Burton and Coast Processes.

"(2) *The Pipe Still*.—Generally a 'one-phase' cracking system. Examples are the Greenstreet, Hall, and Rittman processes.

"(3) *The Use of Catalytic Agents at Atmospheric Pressure*.—This may include reaction both in the 'single-phase' and the 'two-phase' systems. An example is the aluminum chloride process, which is likely 'two-phase' to some extent.

"(4) *Combinations and Modifications of Two or More of the Above Methods*.—The cracking may be in either 'single-phase' or 'two-phase' systems. Examples are the Dubbs, Jenkins and Bacon processes.

"(5) *Processes Involving Principles Not Included Under the Above Four Headings, but Which May Involve Similar Apparatus or the Use of Pressure*.—These methods may have either 'single-phase' or 'two-phase' cracking systems. Examples are the proposed processes of Cherry, Coast, Ellis, and many other processes equally unique. In the first a bipolar high voltage, oscillating, silent electric discharge is thrown across the vapors; in the second, hot gases are passed through the oil or into contact with oil spray, and in the third air is supplied to the cracking chamber, where, by combustion with a portion of the oil, heat necessary for the cracking of the remainder is generated.

"As early as 1865 James Young, the Scotch industrial chemist, secured a patent for the production of illuminating oil by means of pressure at about 20 pounds to the square inch.

"Burton's first patent was granted in 1913, and the process is used extensively at the present time by the various Standard companies. In 1918 it was estimated that 10 per cent. of the gasoline produced was by cracking, a large proportion of this being through Burton stills.

"The standard Burton apparatus includes a still of 200 barrels capacity or more, of conventional shape, so constructed that high pressures may be used. This process involves cracking mainly in the vapor phase. By the Greenstreet method a mixture of oil vapors and steam is passed through a coil of pipe, which is heated, the products next being permitted to expand in drums of considerable size.

"In the Rittman process the cracking takes place in an upright tube containing a rod and chain, the latter being thrown against the sides of the tube when the former is revolved. The oil is fed into the tube at the top, while the vapors are taken off separately from the tar pot at the bottom. All of these processes include the use of pressure.

The most conspicuous developments under this method have been carried out by McAfee of the Gulf Refining Co. The oil is heated and stirred in a still in the presence of an anhydrous aluminum chloride or other anhydrous

salt of aluminum. Before treatment the oil must be freed from water and a quantity of the catalyst equal to a maximum of 8 per cent. by weight of the charge is added before the distillation is begun.

"Fractionating towers are interposed between the still and the condenser so that the higher boiling vapors may be returned to the still along with aluminum chloride which has been vaporized and carried out. The distillation is continued slowly at a temperature of 500° to 550° F. over a period of 24 to 48 hours. By this method a yield of gasoline of 15 per cent. or more may be obtained from residual oils.

"Very interesting in connection with this process is the effect upon the residue remaining in the still and the character of the distillate secured. At the end of the distillation it is found that the aluminium chloride is enclosed in granular coke, which is easily removed, and that a heavy oil free from asphalt, its viscosity in no way impaired by the procedure, may be separated from the coke and then utilized for the production of high-grade lubricating oils, the recovery of paraffin wax, or the manufacture of petroleum."

Oil Financing

The most important oil financing operation for the past year took place when the International Petroleum Co. of Canada took over the Tropical Oil Co. The details of this reorganization are summarized by the *Wall Street Journal* as follows:

"International Petroleum Co. of Canada, the leading Standard Oil organization in South America, has taken over the Tropical Oil Co., owning the de Mares concession of 2,000,000 acres of land in Colombia. Both the present International Petroleum Co. and the Tropical Oil Co. are to be merged into a new International Petroleum Co., according to an announcement made by G. H. Smith, president of the International Petroleum Co., Ltd., and J. C. Trees, president of the Tropical Oil Co. Negotiations have been in progress for several months past. Holders of more than 90 per cent. of the Tropical shares and of a large majority of the International Petroleum stock have consented to the arrangement. In the exchange of stock each share of present International Petroleum common will receive two shares of the new common, and each share of Tropical one and one-tenth shares of new International stock.

"The plan obviously is advantageous to both companies, according to the announcement, one being a producing, refining and marketing organization capable of handling a larger production, and the other a producing company without sufficient facilities for distribution. Their properties are in the same general latitude, and the new company will be one of the

most powerful, if not the largest, oil company doing business in Latin America. It will start off as a well-rounded organization owning ample production, large refineries, a fleet of oil-carrying tankers and distributing stations."

Another "Wonder Man"

The many oil companies engineered solely for the fleecing of the credulous base their certainty of success on the location of their property by some rod expert.

The extravagant and often humorous claims of witch-wizards who locate mineral deposits of various nature with instruments ranging all the way from a willow wand to a combination of springs, magnetic needles and barometric tubes, always furnish amusement to mining engineers. One of these wonder-workers has written a letter to the *Engineering and Mining Journal*, in which he modestly sets forth his qualifications as follows:

"I need waste no time studying the mineralogical or geological formations first, but I can very quickly determine whether there is anything there of value and be on my way.

"I claim and am ready to prove that I can locate and determine platinum and most all minerals of value from platinum down; also, coal, oil and gas. The only doubt that I have in regard to oil is the possibility of getting oil shale, but conditions would go far toward a determination. Gas gave me much experimenting, but I succeeded, and can prove it. I have a general coal locator and one each for anthracite and bituminous coal that have proved entirely satisfactory on coal of both kinds received and sold here by several coal dealers.

"I find most positive evidence of what I think must be a great deposit of coal that probably extends from the Central States across Massachusetts and on into the provinces. This coal changes from anthracite to bituminous near the Massachusetts coast.

"I have attractors for diamonds and other precious stones, and if you are yet skeptical and consider that I am an imposter, I will come to New York and demonstrate my system, and I hope you will have a few gems that you will put up against my ability. We will go to any metal-supply house, and I will locate the different metals and outline them from any floor above them. I also forgot to say that if you have any alcoholic liquor in your building to beware, as I might be tempted to get on the trail.

"I can locate fire and determine the extent of it. This, I think, may be useful in case of fires in mines. I also have an attractor for sugar, but have not yet made an effort to determine between sugar and molasses.

"I am now experimenting to determine both hard and soft deep-water streams. I am very sure now that I am right, but I will thoroughly

prove that I am right or not by testing several hard and soft water veins that have been driven into near Boston.

"A human body I can locate anywhere, but it would be rather difficult to determine the body of a baby from any other animal body unless it was known that a baby was buried there, but I can get the shape or position of a body, and in that way I can tell the difference between a human body and an animal body.

"All deep-water streams run a few degrees east of north and a few degrees west of south. Do you know in which direction they flow?

"I find two substances in connection with coal and oil and three substances in connection with coal and gas. Who knows what they are?

"Also, I would like nothing better than to meet a few of the best mining engineers that the country can produce, and we will each be allowed one-half hour to find any faulted vein that you may know of, and if a reward can be offered, let the one who finds it within the time limit take it (of course, I mean the reward, and not the vein)."

Oil Shale

Mining and Metallurgy, the official publication of the American Institute of Mining and Metallurgical Engineers, contains a paper read before the Colorado Section by R. D. George on the subject of oil shale, which is of great interest.

"The most extensive shale-oil industry is that of Scotland. The Scottish shales are similar to ours, but differ somewhat in respect to their sulphur and nitrogen compounds. They are older, geologically, and have been subjected to greater pressure and heat, which have removed the more volatile hydrocarbons; they bear a relation to the Colorado shales similar to that of anthracite to bituminous coal; they may be said to be more mature. Being simpler, both chemically and physically, they are easier to treat. The shales of France, while of the same geological age as those of Scotland, have not been changed so much. The so-called shales of Bavaria and Bohemia are not true shales; they are partly formed lignites similar to those found in Dakota and Montana. The problems in treating them, therefore, are altogether different from ours. There is some true oil-shale in Bohemia, but it has never been exploited commercially. The Australian oil-shales are of still another type; they resemble the residues left from petroleum refining. They are somewhat similar to the torbanite which was the foundation of the Scottish oil-shale industry, but which is now worked out. The shales of New Zealand are similar to those of Australia. The Canadian oil-shales are unlike those of Colorado, but resemble the shales worked in some of the Eastern States for 'coal oil' before the oil fields of Pennsylvania began to produce.

"In considering the commercial utilization of

our shales not enough attention has been given to the refining. The retorting is much simpler, and in all probability several of the retorts already designed will give satisfactory results, but several important problems in connection with the refining of the product from the retorts, the crude shale oil, are unsolved. The ordinary methods used in refining well oil are not satisfactory. The old acid wash will destroy the gasoline and kerosene fractions and the unsaturated hydrocarbons will be rendered useless by the ordinary alkali wash. New methods must be evolved, and the users of fuel from shale oil will have to be educated to the use of a different type of fuel.

"There are certain objectionable compounds in the crude shale oil. Some of these are corrosive and some decrease the efficiency of the fuel; others are merely differences of appearance or odor from the corresponding well-oil products to which we are accustomed. For instance, the gasoline and kerosene made from shale oil are straw-colored instead of being water white. This does not affect the value of the fuel in the least, but might give the impression that there was some impurity present. These products, in the light of our present knowledge, cannot be bleached commercially. On the other hand, there is a certain substance present which forms a colloidal coating on the cylinders of the motors, and we must find a cheap method of removing this.

Shale gasoline in motors explodes more slowly than petroleum gasoline. For this reason it causes less vibration and is a more desirable fuel. In this respect it is similar to certain gasolines made by cracking the heavier petroleum oils. The Standard Oil Co. has been endeavoring to educate the public to the fact that such gasolines are superior to the old type. The shale gasoline is a better winter fuel because it is more easily volatilized at low temperatures.

Dr. Alderson On Shale

The result of the trip of Dr. Alderson to Scotland, which was reported in the last issue of the JOURNAL, should be most encouraging to the oil shale operators and prospectors of the West. Dr. Alderson returns most enthusiastic of the prospects of the future of that industry, says the *Mining and Scientific Press*.

The Scottish shale, he says, yields 20 barrels of oil per ton, this being half the yield from American shale. Even at that the Scottish shale affords a net profit of 50 cents per ton, despite the fact that the mining is done by hand and that wages are about \$1.50 per day. The retort used in Scotland is not suited to our Western shale. Out of 14 types of retorts only one is at all adapted to the beneficiation of the shale deposits in Colorado, Utah and Wyoming. Dr. Alderson states further that crude oil can be won from shale at \$1.85 per barrel in Colorado and Utah, where 5500 square miles of such rock is available for ex-

ploitation. A yield of even one barrel of oil per ton of shale represents a fabulous output. One 10-foot bed of shale, at one barrel per ton, represents over 15,000,000 barrels of oil per square mile of shale. The production of petroleum from wells in this country to date has been obtained from 4100 square miles, the estimated yield having been 2,280,000 barrels of oil per square mile. These are big figures. We hope that Dr. Alderson will succeed in stimulating intelligent interest in the subject. We note that the Comptroller of the Currency speaks of "the limitless oil shales of the West" in context with our resources in water-power.

Colorado Exploitation

The beginning of research in shale exploitation by the joint efforts of the Bureau of Mines and the State of Colorado have been undertaken. Of these beginnings the *Petroleum Age* has the following to say:

"Those of the oil shale operators in this country who are sincerely attempting to make a real industry of oil developments are anxious to obtain fundamental data on the retorting of oil shale, particularly as regards the effect of certain variable factors in the process of retorting on the quantity and quality of products yielded from oil shales when they are subjected to destructive distillation. From careful examination of a considerable number of suggested processes for treating oil shales and the conflicting ideas on which they are designed, it seems probable that accurate information of a fundamental nature is highly essential to the successful establishment of an oil shale industry in this country.

"Accordingly, the United States Bureau of Mines, in co-operation with the State of Colorado, is undertaking to furnish some definite and impartial information of this type through investigations now under way at the University of Colorado, Boulder, Col.

"A retort for the distillation of oil from oil shale has been designed and installed, together with the necessary auxiliary equipment for controlling and determining variable factors of distillation and for recovering and determining the quantity and quality of the products yielded from the shales. The retort is of such a nature that conditions of retorting can be accurately and completely controlled and varied at will. It is not designed as a commercial retort, but only for research purposes. A testing laboratory with equipment necessary for the examination of the shales, physically and chemically, and the products yielded by them, has also been fitted up.

"The material used in the investigation is oil shale obtained from the De Beque (Col.) shale field. It yields on distillation in the Bureau of Mines testing apparatus about 42 gallons of oil to the ton, and is therefore a fairly representative sample of the shales that probably will be first worked in Colorado. The shale

used will be as uniform as possible in character and oil yield, and will all be obtained from the same seam at the same point, in order to avoid the introduction of unnecessary variable factors in the tests and to render results strictly comparable.

"Effort will be made, as far as the equipment and capital at hand makes possible, to determine the effect of the following variable factors in retorting on the quality and quantity of the products produced from this shale.

"1. Rate of heating to a definite final temperature.

"2. Thickness of the shale layer in the retort.

"3. Size of individual particles of shale.

"4. Vacuum or reduced pressure.

"5. Various pressures above atmospheric.

"6. Steam atmosphere at various pressures and temperatures.

"7. Other atmospheres, such as carbon dioxide, carbon monoxide, hydrogen, illuminating gas, etc.

"8. Actual temperature reached.

"In each case the rate of formation of products and the total time necessary to bring the retorting process to completion will be determined.

"It is doubtful whether all these determinations can be made satisfactorily with the limited personnel and equipment available for the year, but it is hoped that sufficient valuable data may be obtained to be a real contribution to the present knowledge regarding oil shales and to justify a continuation and expansion of the work. As far as possible, the effect of each variable will be taken up by itself and thoroughly studied before passing on to another.

"Carefully conducted work along the lines above indicated should be of value in giving information on the following points:

"1. Are oils of different qualities formed from shales consecutively as their boiling points are reached, the so-called "fractional education theory," or does the shale yield a single, more or less uniform crude oil throughout the course of distillation?

"2. If the fractionation above mentioned takes place, to what extent does it progress, and hence to what extent may economies be introduced in refining shale oils, if the various fractions are directly recoverable for the retort?

"3. The time necessary at a given temperature to effect complete distillation of the shale and the quantity and quality of products so produced.

"4. The effect of steam and other atmospheres in retorting—

"(a) In forming undesirable emulsions with the oils;

"(b) In preventing the formation of undesirable hydrocarbons, such as olefins, diolefins and acetylenes in the oils;

"(c) On the recovery of the nitrogen of the shales, as ammonia or other nitrogen containing compounds;

"(d) On the combustion or utilization of the carbon remaining after the oil has been distilled, to provide combustible gas for retorting;

"(e) On quality and quantity of gas formed;

"(f) On heating efficiency of the retort;

"(g) On capacity of the retort, that is, time of completed distillation under most favorable conditions.

"5. What is the most favorable size of shale to retort?

"6. What quality and quantity of finished products may be expected from shale oil?

"7. How are the nitrogen and sulphur of the shale distributed in the products, and how may they best be removed or prevented from forming?

"8. Physical and chemical constants of the shale and products, particularly those of value in the design and operation of commercial plants, will also be determined. Work is under way on the determination of specific gravity, weight per unit volume when crushed to different sizes, heat of combustion, specific heat, heat of conductivity and chemical analysis of the shale, and specific and latent heats of the crude oil and its various distillation products.

"Summarized, the purpose of the investigation is to determine with scientific accuracy the conditions of retorting oil shale to produce the highest yield of the best products.

New Fuels

The adaptation of small units for reducing waste material into alcohol or other forms of fuel has been a matter of study in the Bureau of Chemistry for some time. Of the recent developments in this field the *Oil News* has the following to say:

"Gas for heat, light and power on every grain-belt farm, from the farm's own sources of supply, is an early possibility. Every farm that has waste straw, cornstalks or even weeds may become independent of the oil barons. The Bureau of Chemistry has produced a satisfactory gas or motor fuel from wheat straw at its experiment grounds at Arlington, Va., and is now working on other field refuse, such as straw from oats, rye and other grains, also dry weeds and cornstalks. A ton of wheat straw will make enough gas to equal in heat or power units 40 gallons of gasoline. It possesses combustible elements very similar to coal gas and has a blue flame. The development of a gas for the unit farm rather than commercial manufacture is the aim. The Department of Agriculture hopes to find a way for each farm to utilize the kind of straw and wastes that predominate in the place. The farmer will be able, if Uncle Sam succeeds, to convert his waste straw into gas and store it for future use. At least 20,000,000 tons of

straw are burned or wasted annually in the United States."

Another interesting development in the search for petroleum substitutes is suggested in this article in the *Oil News*. The use of by-products in the form of benzol is not new, but the breaking down of the hydrocarbons in coal into liquid fuel of a low grade is distinctly new.

"With the loss of the Saar coal Germany finds that in order to preserve even existing industries and to maintain or develop railway transportation facilities it will be necessary to make every possible effort toward developing its fuel supplies, utilizing, so far as possible, the national coals. In the opinion of some of her leading engineers this can best be accomplished by submitting the bulk of the coal to a special process of low-temperature distillation and then using the liquid fuel so obtained in Diesel engines to secure the bulk of the power required. This method would have the additional advantage of yielding by-products of great value.

The development of fuel oil from any available resource is of unusual interest at this time on account of the world's relatively slight increase in petroleum production with the resulting heavily increasing price of such fuel. And it becomes all the more a matter of importance because of the fact that there is an increasing demand for oil composition in factories, steamers, railways and automobiles.

Coal By-products

The coal industry is taking very seriously the possibilities of not only increasing the value of coal so treated, but also increasing its adaptability to use in large centers of population by devolatilization, thus producing a cleaner product both to handle and to consume, but also the added advantage of saving the by-products and making from them materials which may have even a greater value than the results from coal itself. These possibilities are exhaustively discussed in two articles in the *Coal Age*, parts of which follow:

In the burning of raw bituminous coal the volatile constituents are not even completely consumed, a considerable portion escaping as smoke. This is not only a waste of fuel but a nuisance, and many cities have already adopted smoke ordinances which prevent the use of bituminous coal, and these enactments have necessarily increased the demand for a smokeless fuel of the anthracite type.

The conversion of bituminous coal in commercial quantities into a fuel resembling anthracite is an attractive problem from many angles. The requirements of such a fuel are primarily that it be smokeless, easily burned, but not too expensive. It should be as uniform in size as possible, have a reasonably

high heat value, be easy to handle and safe to store.

The name "carbocoal" has been given to the fuel secured. The method of its production is briefly as follows: Raw coal as it comes from the mine is crushed and fed continuously into low-temperature horizontal retorts by means of paddles. The volatile products of carbonization, i. e., the tar, gas and ammoniacal liquor, are treated essentially as in coke-oven practice. The semi-coke which is continuously discharged from each retort is quite different from ordinary coke. It is much softer, carries 8 to 10 per cent. of volatile matter and burns readily. It could be used directly in a power plant, either as fuel under the boilers or in gas producers, but is not in condition to market for general use.

In the next step of the process this semi-coke, or semi-carbocoal, is ground, mixed with pitch, fluxed and passed through a briquet press. The raw briquets are then carried to inclined retorts and distilled again at a temperature of about 1800 degrees F. for six hours. They are then dumped and quenched. The tar, gas and ammoniacal liquor from this high-temperature carbonization are collected and treated along with similar products from the low-temperature carbonization.

More Fuel and Tar Obtained

Yields of carbocoal and the various by-products obtained depend largely on the kind of coal used. Obviously, a coal of high volatile content will, in general, give a high yield of by-products. If we take a coal of the following typical analysis: Moisture, 3 per cent.; volatile matter, 35 per cent.; fixed carbon, 55 per cent.; ash, 7 per cent.; the yields per ton of coal carbonized will be about as follows: Carbocoal, 1,400 pounds; tar, 30 gallons; gas, 9000 cubic feet; ammonium sulphate, 20 pounds; light oil from gas, 2 gallons.

The yield of carbocoal is a little higher than the yield of ordinary coke from the same coal. This is because carbocoal has a slightly higher volatile content than coke, while about half the pitch used as a binder remains as coke in the finished briquet. The yield of tar is nearly four times that obtained in ordinary by-product coke-oven practice. This results chiefly from the low temperature employed in the primary carbonization.

For the same reason the composition of the tar differs considerably from that of the similar product obtained in an oven. It runs higher in its content of valuable tar acids, with more cresols and less phenol. Furthermore, it contains no naphthalene.

The ammonium sulphate yield is about the same as in by-product coke-oven practice. As the yield of solid fuel is slightly greater and the tar yield much larger than in coke-oven

practice, it follows that the amount of gas evolved must be less. There is, however, somewhat more than enough gas to heat both the low and the high-temperature retorts.

Ammonium sulphate finds a ready sale as a fertilizer, the present market price being about seven cents per pound. The light oil from the gas is combined with the light oil from the tar distillation. This fraction is then washed with sulphuric acid and worked up into motor spirit, the present price being a little higher than that of gasoline.

Distillation of the tar yields about 20 gallons of salable oils per ton of coal carbonized. These oils have a high market value. The tar-acid content is approximately 30 per cent., and for this reason the oils are highly desirable for making disinfectants, sheep dips, wood preservatives, flotation oils, etc. The manufacture of pure cresylic acid from such an oil is an easy step. This acid is now being imported into this country at a price of over a dollar a gallon. The pitch which results from the tar distillation is returned to the process, and is approximately the amount required for briquetting.

The carbocoal represents about 70 per cent. of the weight of the material treated. This fuel as it comes from the high-temperature retorts is in the form of hard briquets of a density much greater than that of ordinary coke and only slightly less than that of coal.

As a domestic fuel carbocoal compares favorably with anthracite. It has a heat value of about 13,000 B.t.u. (assuming a coal with 7 per cent. of ash, as above). Being of uniform size and quality, this product burns evenly in the fire bed, leaving under proper firing conditions a clean, light ash.

As a fuel on railway locomotives carbocoal has given entire satisfaction in the several tests so far made. The railroads are confronted with the problem of eliminating smoke at their city terminals, and it appears that the use of carbocoal will solve this problem for them. The fuel is well adapted to locomotive use, particularly in that it gives a steady, uniform fire and responds readily to draft changes. The absence of fines permits of maintaining a high combustion rate with less draft than is required for coal when it is necessary to force steam production.

Another pronounced advantage that carbocoal possesses over bituminous coal for railway use is that it can be stored in unlimited quantity with no danger of spontaneous combustion. This also is particularly important in the West, where hard coal is not available for storage and soft coal cannot be safely stocked in large quantities.

With the present shortage of petroleum oils and the prediction by the United States Bureau of Mines that the output of the present known, existing oil resources is limited to only two decades, the commercializing of low-tempera-

ture coal distillation is now most seasonable.

Low-temperature carbonization is by no means limited to high-volatile coals, but can be applied to almost any bituminous coal and even to lignite. With a coal of lower volatile content the yield of by-products will, of course, be less, but this in a degree is compensated by a higher yield of the carbocoal itself.

Bituminous coal has played a major role in the development of industry, and it is destined to play a yet more important part, not alone as a fuel but as a raw material from which a large number of commercial products may be manufactured. Most of the bituminous coal mined is still used directly as a fuel, but there are powerful factors operating to change this state of affairs. The increasing demand for fertilizers, for motor spirit, for the many products of coal tar, is one of these factors; conservation of our greatest natural resource is another.

All of these facts considered, it is not difficult to foresee a time when no raw bituminous coal will be burned for any purpose. But before that day arrives there must be available everywhere smokeless fuels to take the place of this coal, and in the very nature of the problem these fuels must be manufactured from bituminous coal or from coal of some lower grade. The production of carbocoal is a long step toward a solution of the problem, not only because of the high qualities of the fuel itself, but because the process of manufacture results in a high yield of by-products which serve to lower the cost of producing the fuel.

Water-power

The interest that United States Senator Wesley L. Jones has shown in the development of water power, particularly under the new Federal Water Power Act, induced the *Magazine of Wall Street* to call on him for an article in which Senator Jones makes the following pertinent suggestion and statement of possibilities of water-power development, particularly in the great West:

"The labor of one man is released for other purposes every time 50 hydro-electric horsepower is developed, and every 150 water horsepower developed releases one freight car for other duty.

VARIED USES OF WATER POWER.

"The development of our water powers is intimately connected with the solution of such great national problems as the national defense, extension of inland waterways, supply of food, conservation of coal, oil and labor, irrigation of arid lands and relief from railroad car shortage.

"In addition to conserving vast quantities of coal and labor, the hydro-electric energy

existing in our running waters will, when developed, be utilized in the manufacture of explosives, fertilizers, wood pulp and paper, electro-chemicals, copper and aluminum and many other industrial applications. The utilization of even one-third of the enormous amount of energy latent but now wasting in our falling water would make the United States the greatest manufacturing country in the world. With the development of our water-power resources, billions of dollars of taxable property will be added to the wealth of the nation.

"In the rivers and streams of the United States we have an aggregate of 61,678,000 water horsepower.

"The act creates a Federal Power Commission composed of the Secretaries of War, of the Interior and of Agriculture, to which is delegated authority over all matters pertaining to the development of water powers in which the Federal Government has jurisdiction or in which it is interested as the owner of land or other property necessary to such undertakings.

"Preliminary permits allowing applicants three years in which to make examinations of water-power projects, to prepare plans and to make financial arrangements, may be issued by the commission. It may issue also licenses for a period of 50 years from the expiration of preliminary permits.

"The commission may reserve projects, the development of which in its opinion should be undertaken by the United States Government and report to Congress its opinions and suggestions regarding them. Preference must be given by the commission to States and municipalities where it deems different projects equally well adapted to utilize the water resources of the region concerned.

"The building of headwater storage reservoirs with a view of equalizing power production, preventing floods, and in arid States promoting the use of water for irrigation purposes on the lowlands after the water has been utilized for the generation of power, is given encouragement. The construction of locks in power dams in navigable streams with a view to extending navigation into the upper reaches of such water is provided for.

"By paying the licensee his net investment in hydro-electric plants the Government will have the option of purchasing such plants at the expiration of the 50-year license, or it may issue a new license to the original licensee, upon reasonable terms, or to a new licensee, who in that even shall pay the original owner his net investment in the plant. The law permits the United States to take over and operate during war time for manufacture of explosives, or for any purpose involving the safety of the country, any water-power plant under license. Authority is given the commission to make reasonable charges to cover the administration of the act and for the use of Government lands and property, as well as

to take up excess profits which cannot be reached through regulation. The matter of rates to be charged consumers for power and also the regulation of service place licensees under supervision of State public-service commissions in these respects. The act provides severe penalties for non-compliance with its terms.

"Other countries, France, Spain, Sweden and Italy, are awake to the necessity of developing their water powers. With the enactment of this legislation we should enter upon a development the effect of commercial enterprises, the employment of our labor, new uses for our capital and increased wealth and prosperity for our people.

Alaska

On its editorial page the *Engineering and Mining Journal* discusses the use of airplanes for survey in Alaska. The opportunities for speeding up survey work by such methods would be invaluable says the Journal.

"On July 15 four army airplanes left Long Island for Alaska and return, a trip of 9000 miles. The trip has a double purpose, to establish an aerial route to Alaska and to make a photographic survey of certain typically unknown portions of Alaska.

"It has been reported that at least a preliminary photopraghic survey would be attempted of the Yukon Flats, an immense flat alluvial area at the great bend of the Yukon, where it desists from its course in the direction of the Arctic, turns an angle and heads for the Bering Sea. The great area is of fertile river-built soil and is wooded, and it is traversed by many river channels. Its survey, with the outlining of its waterways, would help to open it up for settlement and the raising of hardy crops, which grow with very great rapidity in the almost or quite incessant daylight of the Arctic summer. By the ordinary methods of ground surveying, a district like this will take a great length of time, much labor and expense, and much mathematics to check closed traverses. It is safe to say, that in the ordinary course of events, the work would be postponed for years. It is believed that an airplane can photograph it so as to make an accurate map in a few days, at a relatively small cost.

"Judging from developments, the reconnaissance plane survey by airplane photograph is destined within the next few years to become one of the most active departments of surveying.

"We may expect that the detailed map of the United States, which the Geological Survey has on hand, and which under ordinary conditions will be completed in some future generation, may become complete as to the reconnaissance plane survey within a few years."

Secretary Payne's Views

The *Engineering and Mining Journal* has the following interesting statement of the progressing attitude taken by Secretary Payne upon his return from his recent visit to Alaska. This detailed statement is of particular interest following the editorial which appeared in the last month's issue of the *Mining Congress Journal*.

Alaska's industrial progress is going to be stimulated if it lies within the power of the influence of the Secretary of the Interior.

Secretary Payne realizes that one of the most helpful things that could happen to Alaska would be a greater incentive to mine gold. While he understands that time must be the most important factor in restoring gold to its normal buying power, he believes that there is a great deal of gold in Alaska which can be mined under present conditions if capital and labor are made available and transportation improved, and other steps taken to reduce some of the unnecessary high costs now hampering all mining operations in Alaska.

The principal purpose of the visit of Secretary Payne and Secretary Daniels to Alaska at this time was to look into the matter of the production of coal from Alaskan mines. Secretary Payne authorized the construction of a washing plant at the Eska mine, which is on the line of the Alaska railroad. The product of this mine is now being used as railroad fuel, but the coal can be greatly improved by washing. It is intended to mine this coal in quantities sufficient to meet the commercial requirements of the territory tributary to the Alaska railroad.

The Chickaloon mine, which is at the terminus of the Matanuska branch of the railroad, produces a grade of coal equal to that of Pocahontas, Secretary Payne says. The vein is 16 feet wide. There are 400,000 tons of coal which have been blocked out. There is a 600-foot shaft and five levels on the property. The navy has \$1,000,000 to spend in an effort to develop Alaskan coal.

Further in the interior the extensive lignite fields are expected to have a decided bearing on industrial development. There are promising anthracite veins in Alaska as well.

The Secretary thinks that other industries in Alaska are going to be stabilized by the development of its agriculture. He was very much impressed with the high productivity of the soil and the large output per acre which can be had in a much shorter season than in the principal agricultural districts in the United States.

Secretary Payne is very much impressed with the favorable indications of the occurrence of oil in Alaska. At his request A. H. Brooks of the United States Geological Survey is looking into the petroleum situation.

with a view of making recommendations as to steps which may be helpful in encouraging prospecting for oil. Considerable prospecting is being done even under present conditions, according to reports that have been received.

Economics

That our deflation program is not only well under way, but well towards completion, is the opinion of one of the foremost banking concerns in New York City, J. S. Bache & Co. expressed in their *Weekly Review*:

"That we are passing through a period of readjustment there is every indication. The travail of such a time is made more ructious by the threatening activity of Bolshevism in Europe. Prices are declining in many directions. In July those on wholesale commodities fell two and one-half per cent. The largest decrease was in cloths and in clothing materials—five and one-half per cent. Food-stuffs declined four per cent, and farm products generally two and nine tenths per cent. We have a long way to go yet, for these prices are above those of July, 1919, food articles having increased during the year 24.1 per cent, and fuel and lighting 47.4 per cent.

Fuel and lighting materials increased in July two and one-eighth per cent.

LABOR'S PART

"While labor prices have not shown the slightest sign of falling off, events are working to make for more efficiency in labor, which is equivalent in a way to wage reduction.

"The cause of this increased efficiency is traceable to the effect of temporary closing down, or going on to part-time of a number of concerns where high wages and lowering prices have made it unprofitable to continue manufacturing at full head. It is true that labor when released by these operations has found employment elsewhere without great difficulty, and there does not appear to be any unusual percentage of unemployment, but the moral effect upon those already in jobs has been to induce more attention to work, and to producing a satisfactory efficient.

THE TIDE OF IMMIGRATION

"There is another cause working steadily now, which may help speed up the sentiment for efficiency among the great army of present workers. That is the fact that 5,000 immigrants are now coming in daily, as announced this week by the Department of Labor. The outflow, which started in large volume after the armistice and which gave much concern to observers of the labor outlook, is now being more than balanced by the increasing inflow of immigrants."

Business Favors Open Shop

One of the most interesting of the planks in the platform of the United States Chamber of Commerce which has recently been adopted is its declaration for the open shop. Of this platform and its attendant features the *Commercial and Financial Chronicle* has the following to say:

How the industrial leaders of the country stand on the question of the "open shop"—under which there is freedom of contract between employer and employee; no discrimination against non-union workers, and no arbitrary restriction of production—is indicated by the result of a referendum recently taken by the Chamber of Commerce of the United States.

By an overwhelming vote, the membership of the Chamber has adopted a platform on industrial relations, which declares for the right of "open shop" operation of industry and for making labor organizations the same as organizations of employers, legally responsible "to others for their conduct and that of their agents." The result of the referendum was announced on July 30. The vote was taken on the report of a special committee of the Chamber's board of directors. This report went deeply into the subject of the employment relation and recommended among other things recognition of the right of open shop operation and the right of employers and employees to deal directly with each other without participation by outside interests. At the same time the Chamber's membership in another referendum vote approved a report of its Committee on Public Utilities recommending that strikes by public utility employees be explicitly prohibited and that tribunals should be created by law to adjudicate in decisions binding on both parties differences between public utilities corporations and their employees. The vote on the two referenda was the largest ever recorded by the Chamber on any subject.

The twelve principles of industrial relations advanced by the committee and the vote on each are given as follows:

1. Every person possesses the right to engage in any lawful business or occupation and to enter, individually or collectively, into any lawful contract of employment, either as employer or employee. These rights are subject to limitation only through a valid exercise of public authority.

In favor, 1675; opposed, 2.

2. The right of open shop operation, that is, the right of employer and employee to enter into and determine the conditions of employment relations with each other, is an essential part of the individual right of contract possessed by each of the parties.

In favor, 1665; opposed, 4.

3. All men possess the equal right to associate voluntarily for the accomplishment of

lawful purposes by lawful means. The association of men, whether of employers, employees or others, for collective action or dealing, confers no authority over, and must not deny any right of, those who do not desire to act or deal with them.

In favor, 16,677; opposed, 4.

4. The public welfare, the protection of the individual and sound employment relations require that associations or combinations of employers or employees, or both, must equally be subject to the authority of the State and legally responsible to others for their conduct and that of their agents.

In favor, 1671; opposed, 4.

5. To develop, with due regard for the health, safety and well-being of the individual, the required output of industry is the common social obligation of all engaged therein. The restriction of productive effort or of output by either employer or employee for the purpose of creating an artificial scarcity of the product or of labor is an injury to society.

In favor, 1675; opposed, 3.

6. The wage of labor must come out of the product of industry and must be earned and measured by its contribution thereto. In order that the worker, in his own and the general interest, may develop his full productive capacity, and may thereby earn at least a wage sufficient to sustain him upon a proper standard of living, it is the duty of management to co-operate with him to secure continuous employment suited to his abilities, to furnish incentive and opportunity for improvement, to provide proper safeguards for his health and safety and to encourage him in all practicable and reasonable ways to increase the value of his productive effort.

In favor, 1679; opposed, 2.

7. The number of hours in the work day or week in which the maximum output, consistent with the health and well-being of the individual, can be maintained in a given industry should be ascertained by careful study and never should be exceeded except in case of emergency, and one day of rest in seven, or its equivalent, should be provided. The reduction in working hours below such economic limit, in order to secure greater leisure for the individual, should be made only with full understanding and acceptance of the fact that it involves a commensurate loss in the earning power of the workers, a limitation and a shortage of the output of the industry and an increase in the cost of the product, with all the necessary effect of these things upon the interests of the community and the nation.

In favor, 1677; opposed, 3.

8. Adequate means satisfactory both to the employer and his employees, and voluntarily agreed to by them, should be provided for the discussion and adjustment of employment relations and the just and prompt settlement of

all disputes that arise in the course of industrial operation.

In favor, 1668; opposed, 8.

9. When, in the establishment or adjustment of employment relations, the employer and his employees do not deal individually, but by mutual consent such dealing is conducted by either party through representatives, it is proper for the other party to ask that these representatives shall not be chosen or controlled by, or in such dealing in any degree represent, any outside group or interest in the questions at issue.

In favor, 1568; opposed, 54.

10. The greatest measure of reward and well-being for both employer and employees and the full social value of their service must be sought in the successful conduct and full development of the particular industrial establishment in which they are associated. Intelligent and practical co-operation based upon a mutual recognition of this community of interest constitutes the true basis of sound industrial relations.

In favor, 1664; opposed, 2.

11. The State is sovereign and cannot tolerate a divided allegiance on the part of its servants. While the right of government employees, national, State or municipal, to be heard and to secure consideration and just treatment must be amply safeguarded, the community welfare demands that no combination to prevent or impair the operation of government or of any government function shall be permitted.

In favor, 1663; opposed, 4.

12. In public-service activities the public interest and well-being must be the paramount and controlling consideration. The power of regulation and protection exercised by the State over the corporation should properly extend to the employees in so far as may be necessary to assure the adequate, continuous and unimpaired operation of public-utility service.

In favor, 1649; opposed, 18.

The referendum on public-utilities employment carried the recommendations of the Chamber's committee on public utilities. These are two in number, and are given as follows, with the vote on each:

The committee recommends that strikes by employees of all public-service corporations performing public service essential to the lives, health, security, comfort and well-being of the people should by law be explicitly prohibited.

For, 1564; against, 97.

The committee recommends that suitable tribunals should be created by law to adjudicate differences between the employees of public-service corporations and their employers, and that the decisions of such tribunals should be final and binding upon both parties.

For, 1571; against, 100.

Nobody Seems to Care

The cries of food speculators, particularly in sugar, for help during the recent decline from their artificially produced high prices have aroused little sympathy. Of this the *Wall Street Journal* says:

"War profits have destroyed the commonest idea of sportsmanship. These merchants consider that they should be publicly guaranteed in a certainty. They have made extortionate profits, and now demand, the first time the market turns against them, that someone else should bear the loss. Like other speculators, they have doubtless been pyramiding, and if some of them swell the increasing list of commercial failures the rest of us will be able to bear the shock with Christian fortitude."

COST DATA PUBLIC NECESSITY SAYS TRADE COMMISSION

In its reply to the injunction sought by the Maynard Coal Co. of Columbus, O., restraining the Federal Trade Commission from requiring monthly report, the Commission says that conditions in the coal industry respecting costs of production and prices necessitate collection of information on the industry. The Commission says:

"The abnormal situation of the coal industry now, both as respects the costs of production and prices, and the frequent disputes as to the reasonableness of prices necessitates the collection of information by the Commission which will show the true situation of the industry, as such information is not now available from any other source. This information would be of great value, especially at the present time, to mine operators, mine workers and the general public, and absolutely essential for the information of any intelligent Government policy with regard to the urgent problems of this industry."

The Commission denies the contentions of the Maynard company that forms for the collection of its information would necessitate changes in accounts; that it was exceeding its authority, and that power to require such reports had been transferred by the President to the Fuel Administration.

Anti-Trust Law Pamphlet

The Department of Justice has issued in pamphlet form a compilation of Federal Anti-Trust Laws, with amendments and a list of cases instituted by the United States and decisions rendered thereunder by the courts up to January 31, 1920. It is a pamphlet of 130 pages, and is of interest to manufacturers, business men and students of anti-trust proceedings. Copies of the same may be had upon application to the office of the Attorney-General, Washington, D. C.

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Extensive Asbestos Deposit Reported

An asbestos claim has recently been located in Apache county, Arizona. The deposit is said to be extensive, having been traced over 20 miles. Vein exposures are so prominent that, according to report, one can, without the aid of miners' tools, pick up a ton or more of crude asbestos that has broken down from the exposures.—Bureau of Mines.

Silver's Future Bright

It was thought that the Pittman Act in this country, providing for the repurchase of silver to replace that melted and exported to India during the war, would sustain the silver market above \$1 an ounce for some time to come, but now the currency arrangement of India seems to insure an even higher minimum, and a bright future for the silver mining industry.—Bureau of Mines.

Coal Mine Fatalities Decrease

According to official reports from all State mine inspectors, except Kentucky, 148 men were killed in American coal mines during May, 1920, as compared with 170 in the same States last year. The decrease is 13 per cent. Based upon an output of 46,686,273 tons in May, 1920, the fatality rate is 3.17 per million tons produced.

During the first five months of 1920 803 lives were lost, a decrease of 47 from the record of the parallel months of last year. The production of coal during these five months was 247,737,273 tons, an increase of 39,432,273 tons over the first five months of last year. While production increased nearly 19 per cent., fatalities decreased 5.5 per cent.

Coal Exports for Five Months

During the first five months of 1920 the United States exported 11,618,806 short tons of coal, valued at \$68,301,514. Of this tonnage 9,108,091 tons were bituminous and 1,817,715 anthracite.

Havre-to-Paris Pipe Line

By the provisions of a decree published in the *Journal Officiel* of July 28, 1920, a French company has been granted permission to establish a pipe line between Havre and Paris for the purpose of conveying petroleum from the former port to Paris and intermediary points. The pipe line is considered necessary because of transportation difficulties.

American Miner Leads World

The American coal miner leads the world. The largest average production ever made by underground workers in one year was 1134 short tons, which was the average American production during 1918. New South Wales, with an average of 814 tons, was America's closest competitor. British Columbia came third, with 700 tons and Nova Scotia fourth, with 718 tons.

Not only the annual, but also the daily output of coal of the underground worker is greater in the United States than in any other country, and the former holds true notwithstanding the fact that the working year is usually shorter in America. For the 18-year period beginning with 1901, American mines were operated from 195 to 258 days. Records of the Bureau of Mines show that each underground worker in 1901 averaged 3.37 tons a day, and increased his daily output to 4.40 tons in 1918.

Treasury Drops Heavy Load

The Treasury on September 1, was relieved of the guarantee payment to the railroads, which during six months amounted to \$407,000,000. The income of the Treasury will be augmented by \$55,000,000, the increased amount of taxes which will be paid on increased rat s



Remedies for industrial unrest still occupy the attention of those who are endeavoring to solve the labor situation. **Thomas A. Edison**, basing his conclusions upon recent investigations made by him, says:

"I believe that if you can make the industrial worker understand what capital and management are doing for him it will go a long way to cure this so-called 'unrest.' The average factory hand today has no conception of what capital is being invested for him in better machinery and tools to make a better job for him.

"I've seen figures somewhere showing that invested capital has increased enormously year by year for each worker, while the value of manufactured goods has increased per worker in a much smaller proportion.

"England is our nearest competitor in the amount of horse-power used for each worker and in the principal industries, and we are three times better off than England—that shows in our higher production per worker and his better way.

"And office workers are going to have better jobs as they get more automatic machinery to help them."

The *Wall Street Journal* recently published one of its interesting "editorial-sermons" upon the commandment that "six days shalt thou labor, and the seventh day rest," stressing the point of "six days shalt thou labor." With this idea in mind, **W. A. Sadd**, president of the Chattanooga Savings Bank and vice-president of the Savings Bank Section of the American Bankers' Association, in a meeting before the Georgia Bankers' Association, said:

"We read that France has gone to work, that England has gone to work, that Germany is working on a ten-hour basis, and

finally that Soviet Russia is enforcing a conscription of labor for a longer working day than American industrialism would favor. When will America go to work? The tax situation has received a lot of unfortunate discussion. Economists can demonstrate to the satisfaction of any open-minded individual that staggering as is our national budget the cost thereof to the ultimate consumer is several times the amount actually received by the Government. While not seeking in the least to minimize the relation of currency and credit inflation to the high cost of living, I would express the firm conviction that the absolute unnecessary waste and extravagance which makes our national budget unnecessarily high, combined with the demonstrated faults in the national system of taxation, methods of financing which savor too strongly of political camouflage, have a bearing upon the high cost of living which the average man is too apt to overlook; that also, as labor represents between 80 and 90 per cent. in the cost of production, we have only to look about us to discover the great possibility for increased production per man and per hour of effort."

William H. Barr, president of the National Founders' Association, of Chicago, said a significant thing to the members of that association in a letter of August 19. He speaks with authority for employers of labor, but what he says is in no sense an ultimatum to the worker. It is an unpretentious declaration of facts, which for the worker's own sake must be faced.

"There is no desire on the part of employers to reduce wages unnecessarily, but they must be adjusted, according to the laws of supply and demand, in accordance with prices. There is one way in which wages may be kept up, although not necessarily to the present figure. The employer must adopt the policy of selec-

tion. He must weed out the slacker and he prepared to give to the honest, loyal worker suitable reward in the way of highest possible wages, good working conditions and, as far as may be established, the element of permanency in employment. Wages can be kept up only if the worker gives as near to 100 per cent. efficiency as possible. But if this efficiency is to be diluted by the introduction or continuance in employment of the slacker, wages will decrease and idleness threaten."

The passage of the water-power bill has led to much speculation as to the conservation of those things which can be supplanted by water-power. **A. H. Armstrong** of the General Electric Co. says:

"That of the 176,000,000 tons of coal used in a recent year by American railroads more than 122,500,000 tons could have been saved by electrification, and that the drawing from water-power would have constituted a greater saving. The trouble with the railroads is that they are suffering from physical stagnation produced by the fact that steam-engine development has not kept pace with the needs of modern transportation. He urges the immediate electrification of the more difficult divisions where the limitations of steam engines are most keenly felt, and says that the most powerful steam engines are pygmies compared to the largest electric locomotives in operation. It has been found that a ton of coal hurned in a locomotive boiler will haul a ton of passengers, freight or cars 6000 miles. On an electrified road the same amount of coal will move an equal load nearly three times as far."

Ira C. Tichenor, writing to the *Salt Lake City Telegram*, has the following to say in approval of the position taken by the American Mining Campaign in the present gold emergency:

"Doubtless it will be regretted by the gold producers of the country and also by economists who consider the future of America, as relating to its position in the world's financial and industrial circles, that Secretary of the Treasury **Houston** has taken a stand in opposition to the plan approved by The American Mining Congress to maintain normal gold production by imposing an excise tax on all gold used other than monetary purposes and the payment of a premium to producers of newly-mined gold.

"The principal objection raised by the

Secretary of the Treasury to such a plan is that the payment of a premium on new gold production would be a subsidy. Secretary **Houston** evidently does not realize that under the prevailing conditions of high costs of labor and material gold producing is costing the miners more than the net price of \$20.67 an ounce, and that by selling the metal to manufacturers at that price the Government really is giving the manufacturers a subsidy, but at the expense of the producers."

The importance to the mining industry of a national organization representing it at Washington is pointed out by the *Denver Record*, which says:

"The West can make itself heard in Congress if it will stand as a unit behind The American Mining Congress, which is evidently its only hope in Washington. Mining men will meet in Denver this fall to work out plans to better the industry. Every mining man who possibly can attend the Mining Congress session in Denver should do so."

That the mining industry will feel the effects of freight-rate increases, and feel them deeply, is the opinion of the *Daily Mining and Financial Record*, Denver, Col. This publication expresses its sentiments as follows:

The metal mining industry will suffer from the advance of freight rates, and overhead costs will be increased, not only in the additional charge for moving ore to mill or smelter, but higher prices will be asked on mining supplies, to meet the enhanced freight charges on such material to the mining camps. The gold-mining industry is already overburdened, while gold stands still at \$20.67 an ounce. Silver mines are somewhat better situated. The white metal commands \$1 an ounce, through the Pittman Act, and New York advices tell of a higher price paid, and world demand may bring about still further advance for silver. But at present the margin of profit will be reduced fully 20 per cent.

Lead, zinc, copper, silver, gold mines will all be affected and production costs will mount upwards, enforcing many of the smaller operators to curtail both development and production.

The coal miner alone is not affected, for coal will assuredly advance to offset the increase, while the metal miner, whose product has depreciated, must pay the higher price for fuel or close down.

Practically two-thirds of the freight on Western roads is reported dependent upon

the mining industry, but if mines are forced to cease operating through this added operating expense, railroad earnings must decrease accordingly, and other industries, together with the long-suffering American public, will be called upon to meet the deficiency and dig deeper to "pay the freight."

"There is a long period of prosperity ahead for the conservative silver mining venture, according to the *Mohave County Miner and Our Mineral Wealth*, Kingman, Ariz. This publication points out that up to September 1 the United States Mint had purchased only 13,000,000 and some odd thousand ounces of the authorized 200,000,000 ounces. The *New York Times*, viewing the silver outlook, says:

There is a long period of prosperity ahead for the conservative silver mining venture. Uncle Sam has purchased only 10,000,000 ounces of his order for 200,000,000 ounces. Even the *New York Times* is alive to the bright outlook for silver. That newspaper says: "From this it is evident that, with the United States production out of the market and the Mexican output below normal, the world's needs will again make for higher prices. It will appear that the shortage of silver would warrant the belief that silver's permanent level will be well above \$1 an ounce."

ALASKA COPPER AND GOLD PROBLEMS GIVEN ATTENTION

O. C. Ralston of the Bureau of Mines left August 10 for Alaska to co-operate with A. H. Brooks of the Geological Survey in studying metallurgical problems with the idea of stimulating the mining industry in Alaska, and particularly to investigate the feasibility of smelting Alaska copper ores within the territory.

This investigation was embodied as one of the principal recommendations in the report to Secretary of the Interior Payne of the Alaska Advisory Committee, composed of representatives of the Interior, Postoffice and Agricultural Departments. Secretary Payne on June 14 sent a memorandum to Dr. F. G. Cottrell, Director of the Bureau of Mines, directing that this recommendation with others be put into effect, and the dispatching of Mr. Ralston to Alaska was the result.

Alaskan copper mines were first operated in 1910, and since that time they have produced a total of 545,000,000 pounds of the metal, valued at \$114,526,000. Their maximum output was achieved in 1916, when, stimulated by war demands and prices, production amounted to 110,885,000 pounds, valued at \$29,484,000. Owing to decline in price and to uncertainty

in the market production fell in 1919 to 47,220,000 pounds, valued at \$8,783,000.

Bad Roads Retard Progress

One of the principal drawbacks to the development of Alaska is the lack of transportation facilities. Copper deposits are widely distributed in the territory, and the Advisory Committee in reporting expressed its belief that their exploitation would increase when transportation conditions were bettered. A considerable part of the present copper output has come from the high grade ores of the Chitina district. Large bodies of low grade ore have been found in several districts, notably on Prince William Sound, and the exploitation of these, in the opinion of the Advisory Committee, should give a greater stability to the Alaska copper mining industry.

Secretary Payne in his memorandum of June 14 also directed that the Bureau of Mines make an investigation and report on methods and costs of placer mining in Alaska, this investigation to be specially directed toward development of methods for exploiting the large bodies of auriferous gravels of low gold content. More than 60 per cent of Alaska's population has in the past been employed directly or indirectly by the gold mining industry. Activity in the industry was curtailed because of economic conditions imposed by the war, and as a consequence the value of Alaska gold has steadily declined from \$17,242,000 in 1916 to about \$9,550,000 in 1919. The decline in gold mining, the Advisory Committee points out, has been the principal cause of Alaska's loss of population and the discouragement of her residents. The committee cites the fact that in 1916 4000 men were engaged in placer mining, whereas in 1919 this number had dwindled to 2000.

Field Awaiting Development

Excerpts from the Advisory Committee's report, which are especially pertinent in view of the beginning of these investigations ordered by Secretary Payne, show the following:

"Alaska gold lode mining in the past has been chiefly based on large low-grade deposits of the Juneau district, whose profitable exploitation has been possible only by very large operations. The enormously increased cost of mining, owing to the present economic conditions, has greatly curtailed mining at Juneau.

"The most promising field for Alaska gold lode mining is in the exploitation on a small scale of the auriferous lodes of higher gold tenor, which have not been found in many localities, notably in the Willow Creek and Fairbanks districts. Geologic information indicates a wide distribution of auriferous deposits, and there is every reason to believe that other workable deposits of gold-bearing quartz will be developed when the country is opened up by railroads and wagon roads."

MID-YEAR METAL MINING SURVEY

A survey of mid-year metal conditions in the Western States leads to the conclusion that 1920 production will exceed the 1919 output only in very rare instances. The low price of gold, unsettled market conditions affecting copper, lead and zinc, increased operating costs and labor scarcity all combined to keep down production during the first six months of the year. The passage of the Pittman Act was the greatest stimulus of the year to the production of silver.

The following survey by States combines the findings of various experts:

Arizona

Arizona mining conditions improved in the early part of 1920, although there was no great change in volume of production, according to preliminary advices received by the Department of the Interior. The gold output of 1919 was only \$4,231,000, much less than in 1918. Still another decrease is anticipated for 1920. The State's output has been increasing on account of the gold content of copper ores and the discovery of gold at Oatman, but many of its gold mines are idle. Arizona silver is derived mainly from copper and lead ores. The 1919 output was approximately 4,927,500 ounces, valued at \$5,479,000. High prices prevailed during the first four months of 1920, but total annual production greater than that of 1919 is not expected unless the smelting of silver-bearing copper ores is increased. Shipments of bullion from smelting plants indicated a copper production for 1920 greater than the 522,020,000 pounds produced in 1919. Large producers during the early part of the year shipped around 45,000,000 pounds a month, but the shipments included copper left over from 1919.

California

According to C. G. Yale of the United States Geological Survey, "conditions in the metal-mining industries in California during the first half of 1920 were even more burdensome to the operators than in 1919. The high cost of supplies and labor and the scarcity of skilled labor have increased the number of mines that have suspended or curtailed operations and have materially lessened the output of metals."

During the first six months of the current year California mines sent \$7,811,300 in gold, or \$1,086,739 less than during the parallel period of 1919, to the United States Mint and local smelters and refineries. If monthly receipts continue at the same rate, the year's output will be \$1,757,000 less than that of 1919. Operations have been stopped on a large number of mines, while others which were operated profitably under normal conditions are worked at a loss to prevent a still greater expense of closing down altogether. Shortage of skilled miners, fires and shortage of water are contributing to the decrease in production.

Colorado

"The year 1920 started with mining men all hesitant as to future action," according to Charles W. Henderson, in a statement on the Colorado situation prepared for the United States Geological Survey. "Silver sold at high prices, but was unsteady, and many hoped that Congress would take some action in regard to an excise tax on gold sold for use in manufactures, but no such action was taken. During the recent rapid drop in the price of silver, before arrangements were made to apply the Pittman Act, guaranteeing \$1 an ounce for silver, many small lessees abandoned work or postponed prospective developments."

For several years Colorado operators and lessees have been influenced strongly by the fluctuating price of silver and the fixed price of gold. During the war Cripple Creek operators found prices for labor and material burdensome. Economies were soon overbalanced by increases in cost, and at the beginning of 1920 only the financially strong properties were in operation. Cripple Creek produced \$5,800,000 in gold in 1919, but Mr. Henderson predicts a falling off to \$4,000,000 in 1920.

Idaho

Idaho will turn out an increased production of silver, lead and zinc in 1920 if the present rate is maintained. Shipments during the first five months of the year were not so large as those in normal times, but were considerably greater than those of 1919, which were less than the annual average of the last ten years.

The 1919 gold production was \$703,000 as compared with a 10-year average of \$1,085,350. The 1919 silver production was the lowest for three years, amounting to 5,700,000 ounces, valued at \$6,340,000 as compared with a 10-year average of 9,730,180 ounces. Producers of silver-lead ore are making larger shipments than in 1919.

Last year's copper output amounted to 3,140,000 pounds, valued at \$591,000, a considerable decrease over 1918, and the current year may see still another falling off. After producing 294,695,993 pounds of lead in 1918, the Idaho mines turned out only about 184,070,000 pounds in 1919, when many of the large mines were idle. Conditions improved somewhat during the first six months of the current year. The zinc output decreased from 45,161,712 pounds in 1918 to approximately 16,565,000 pounds in 1919. If shipments of ore and concentrate continue at the rate of the first six months, the 1920 output will be larger.

Montana

Although operating costs continued high and labor conditions remained unsettled, early 1920 months saw the output of Montana mines approaching normal, according to C. N. Gerry of the United States Geological Survey, before strikes and other troubles operated as a

dampener against optimism. In Mr. Gerry's opinion, in 1919 the gold output of \$2,272,000, itself smaller than the 1918 production, was greater than the 1920 production will be. The recovery of gold by dredges is decreasing rapidly, and operators, especially those working low-grade deposits, have been hampered by high costs.

The State's larger copper mines with silver-bearing ores were producing about 60 per cent. of normal output in mid-year, indicating decreased production of silver for the 12-month period, as compared with the 1919 output of 13,280,000 ounces, valued at \$14,768,000. The copper output in 1919 was 180,246,000 pounds, valued at \$33,040,000, against a normal annual production of about 300,000,000 pounds. Shipments of ore and bullion for the first five months of 1920 presage an average production of 17,500,000 pounds a month, as compared with 15,000,000 pounds a month in 1919. Montana produced about 42,000,000 pounds of lead in 1919, an increase over 1918. The State's output has increased steadily during the last few years on account of the saving of lead after the lead-zinc ores had been leached. Another increase in total production was, in mid-year, considered not improbable. The Montana zinc output in 1919 was about 176,000,000 pounds, valued at \$12,914,860. If the output of the first six months is maintained, the total production of 1920 will show a great increase.

Nevada

There was active development of Nevada mines in the first part of 1920, but no general increase in shipments of ore concentrates or bullion, according to V. C. Heikes of the United States Geological Survey. Mines throughout the State produced at a rate below normal on account of operating expense and labor scarcity. The State's gold output decreased from \$6,619,937 in 1918 to about \$4,718,000 in 1919, and a further decrease is indicated for 1920. Silver production fell in 1919 to 7,000,000 ounces, and on account of labor troubles Mr. Heikes was unable to predict an immediate increase. Copper production fell from 116,316,441 pounds in 1918 to approximately 51,067,000 pounds in 1919, and shipments during the early part of the year were not sufficiently large to warrant expectation of any increase. The State's lead output dropped almost 50 per cent., or from 23,316,534 pounds in 1918 to 12,558,000 pounds. Larger shipments were made by some of the mines, however, during the first five months of 1920. The output of recoverable zinc decreased from 16,724,753 pounds in 1918 to about 8,182,000 pounds in 1919. However, there was a large increase in shipments of zinc concentrate early in 1920.

New Mexico

The largest copper company in New Mexico during the first three months of 1920 produced 3,540,000 pounds per month, a gain over the average monthly production of 3,527,000

pounds during the whole year of 1919. In May, 1920, the output was nearly 4,000,000 pounds. Accurate figures as to shipments of gold, silver, copper, lead and zinc for the entire State up to mid-year were not obtainable. The State Tax Commission of New Mexico reports that for 1919 the gross production of 36 metal-mining companies was \$10,744,230, and that their gross expenditure was \$10,710,910.

Oregon

Oregon's receipts during the first six months of 1920 showed a decrease of \$204,769 in gold and 9803 ounces of silver. Gold received during this period in 1919 amounted to \$303,565, and only \$98,770 in 1920, a decrease of 67 per cent. Silver receipts amounted to 11,323 ounces during the first six months of 1919 and only 1520 ounces in 1920, a loss of 87 per cent. Losses in production were due mainly to unfavorable conditions in Baker and Grant counties, the first and third in rank, respectively, of the State's gold and silver producing counties. Shortage of water-power was also a contributing factor. The Geological Survey predicts, however, that gold production during the second half of 1920 will equal that of the last six months of 1919, and that silver production during the latter half will exceed that of the first half of 1920 by 50 per cent.

South Dakota

In its mid-year review of South Dakota mining conditions the Geological Survey says:

"The production of metals in the Black Hills district of South Dakota in 1920 has been confined almost exclusively to two mines, the Homestake and Trojan. The Homestake produced gold amalgam bars and cyanide gold bars, and the Trojan produced silver-gold cyanide bars and a few lots of smelting gold-silver ore. All the other gold properties were closed on account of high cost of mining.

"In December, 1919, the Homestake mine succeeded in extinguishing the fire which started September 25, 1919, above the top (sixth) floor of one of the small square-set stopes in pillar No. 3, north of the Star cross-cut, on the 800-foot level. The mills were closed October 5, 1919, during the flooding of the mine. In January, 1920, 540 of the 1020 stamps in the mills of the company were dropping; in March 740 stamps, and in April 840 stamps were dropping. The company was able to keep all the mine and mill crews employed on surface improvements and exploration work, but as some of the mills were idle the production during the first six months of 1920 was not equal to the normal production. The Homestake mine produced \$4,346,116 in 1919, as compared with \$5,916,800 in 1918 and with \$6,619,574 in 1917."

Utah

Utah's metal output increased slightly during the first half of the year. The 1919 output of gold, silver, copper, lead and zinc was valued at approximately \$45,439,400, a decrease from

\$86,047,597 in 1918. Gold production in 1919 totalled about \$2,070,600, a decrease from \$2,949,170 in 1918.

The silver output in 1919 was about 11,569,000 fine ounces, valued at \$12,865,000, a decrease from 13,455,597 ounces in 1918. However, the 1919 production exceeded the 10-year average of 12,500,000 ounces.

Copper production of 1919 aggregated 123,626,500 pounds, valued at \$23,241,782, a large decrease from that of 1918. No great change in output is indicated for the current year. Lead production fell from 167,008,224 pounds in 1918 to approximately 121,249,000 pounds in 1919, the lowest output in 10 years. Shipments of ore and concentrate from all mines averaged 8000 tons during the first 150 days of 1920.

Zinc fell from 18,399,417 pounds in 1918 to about 4,467,000 pounds in 1919. Utah's zinc production has ranged from 302,568 pounds of recoverable zinc in 1910 to 11,591,609 pounds in 1916.

Washington

The metal output of Washington during the first half of 1920 was comparatively small, especially that of gold and silver. The value of 1919 gold, silver, copper and lead was about \$59,000, a decrease of \$508,000. Washington mines in 1919 produced about \$280,000 in gold, 300,000 ounces of silver, 1,321,000 pounds of copper, and 1,700,000 pounds of lead. Conditions during the first half of 1920 were unsettled.

Texas

If production is continued at the rate maintained for the first six months of 1920, the mines in Texas will produce during the year 500,000 ounces of silver, according to the United States Geological Survey. The principal mine in Texas is the Presidio, at Shafter, which has produced many millions of dollars' worth of silver from silver ores. The production of gold in Texas has always been small, amounting to only about \$43,000 during the period from 1885 to 1918, but the production of silver during the same period exceeded 14,200,000 ounces, most of which has been taken from the Presidio mine.

Drawback Extended

The Treasury Department has extended the customs drawback regulations to cover solder, type metal, bar lead, lead pipe, lead wire, etc., manufactured by the Union Smelting & Refining Co., Inc., at its factory at Newark, N. J., with the use of imported lead, antimonial lead and antimony. The allowance of drawback, effective on and after November 15, 1919, will not exceed the quantity of imported material appearing in the exported articles.

BELIEVES IT HIS DUTY TO ATTEND A. M. C. ANNUAL CONVENTIONS

Dr. George Otis Smith, Director of the Geological Survey, before the House Committee on Appropriations, favored an allowance of expenses for the Director and members of the Survey in attending meetings of technical, professional and scientific societies when required in connection with their official work. He referred to having been appointed by the President as "a delegate on the part of the United States" to the American Mining Congress and then having to pay his own expenses.

"I believe it is my official duty to attend the American Mining Congress and to meet there the mining men who are interested in the industrial problems that I am interested in as a public official," said Dr. Smith.

He mentioned the fact that the coal statistician of the Survey recently attended the meeting of the American Institute of Mining and Metallurgical Engineers in New York, where he presented facts of the coal industry, showing seasonal fluctuations in coal production which formed the basis of two days' discussion by mining engineers on that important subject, the delegate paying his own expenses. The Chief Geologist of the Survey presented a paper on oil at this conference and likewise met his own expenses. He suggested an appropriation of \$10,000 to meet expenses of members of the Survey in attending meetings of which there were about 30 a year which should be attended by himself or some other member of the Survey. Expenses should also be allowed for attendance at important foreign meetings. The Director said he had attended three international geological congresses as an official representative of the United States and paid his own expenses.

Moves Office

The Roessler & Hasslacher Chemical Co. announces that its main office has been removed to more commodious quarters at 709-717 Sixth avenue, corner 41st street, New York, N. Y.

No longer may the up-to-date petroleum engineer, or even the large producer, confine his knowledge and efforts to a single oil field. The demands for the product, the fluctuations in the output and, in general, the need for supplementing decreasing output in one field by bringing in new fields elsewhere make it essential that the horizon be extended much more widely than formerly. Even the broad limits of the United States are no longer sufficient, and within the short space of three or four years the problem has become a world problem.

FEDERAL POWER COMMISSION ORGANIZES

The Federal Power Commission has perfected its internal organization plans. It will be subdivided into engineering, accounting, statistical, regulatory, licensing, legal and operation divisions. Hearings were held during the month upon the provisions of the bill respecting licenses and permits, preferences and priorities. Also a hearing was conducted, over which Secretary of War Newton D. Baker presided, concerning the financial aspects of power development. Many of the leading bankers of the country were present. It is understood that, as a result of these hearings, the commission will make a compilation of regulations which will be made public shortly.

H. O. Stabler of the Geological Survey and R. R. Randall of the Forest Service have been appointed by the executive secretary of the commission to complete regulations with respect to applications. C. E. Thorlow of the Alabama Power Co. is assisting this committee. Major Lewis W. Call of the Judge Advocate-General's office has been transferred to the commission and will serve as chief counsel. General Crowder, Major Call and Secretary Merrill will work up the regulations with respect to the financial features of the act. They are being assisted by a subcommittee from the National Electric Light Association, W. A. Brackenridge and Mr. Rippey of Los Angeles, and President Martin of the Alabama Power Co.

APPLICATIONS FOR LICENSE TO DEVELOP WATER-POWER

Forty-six applications for preliminary permit or license to develop hydro-electric power under the provisions of the Federal Water-Power Act had been filed with the Federal Power Commission, Washington, on September 1. Following is a list of applicants and locations of proposed water-power projects:

Alabama.—Alabama Power Co., Thomas W. Martin, president, Birmingham, Ala.; *Coosa River* in *Alabama*, below Government Lock No. 2.

Alaska.—Speel River Power Co., E. P. Kennedy, president, 418 Foxcroft Building, San Francisco, Cal.; Tongass National Forest in Territory of *Alaska*, in vicinity of *Speel River*.

Tongass Alaska Pulp & Paper Co., by M. M. Lyter, attorney, 817-823 Alaska Building, Seattle, Wash.; utilization of Fish Creek, Swan Creek, Big Lake, Mirror Lake and Swan Lake for power purposes and authority to construct power plants and pulp and paper mill on the southeast shore of Carroll Inlet, in Southeastern Alaska.

Arizona.—C. A. Heberlein, Prescott, Ariz.; *Cataract Canyon*, Coconino county, Arizona.

Arkansas.—Dixie Power Company, W. V. Powell, president, 33 Metropolitan Building, Chicago, Ill.; *White River*, near Cotter, Baxter county, Arkansas.

California.—Pitt River Power Co., San Francisco, Cal., Messrs. Harr & Bates, attorneys, Westory Building, Washington, D. C.; *Pitt River*, California.

R. W. Hawley, Commercial Building, 833 Market street, San Francisco, Cal.; *Silver Creek* and its branches, in Eldorado county, California.

Beckman and Linden Corporation, *Colorado River*, in *Arizona* and *California*.

Florida.—The Cove Company, Ocala, Fla., J. D. Robertson, secretary and treasurer; *Withlatchoochee River*, above Stokes Ferry.

Idaho.—G. W. Spoerry, Bonners Ferry, Idaho; *Moyie Falls*, on *Moyie River*, Idaho.

Utah Power & Light Co., Joseph Williamson, clerk, Augusta, Me.; M. O. Leighton, consulting engineer, McLachlen Building, Washington, D. C.; Soda Point, Lava, Narrows and Mink power sites on *Bear River*, Idaho.

Idaho Power Co., F. F. Johnson, president, Boise, Idaho, M. O. Leighton, consulting engineer; Upper Salmon Falls project on *Snake River*, Idaho.

Idaho Power Co., F. F. Johnson, president, Boise, Idaho, M. O. Leighton, consulting engineer; Twin Falls project on *Snake River*, Idaho.

Illinois.—State of Illinois, by Governor Frank O. Lowden, Springfield, Ill.; *Des Plaines* and *Illinois Rivers*.

Minnesota.—J. D. Markham, A. Kelsey and J. F. Druar, 512 Globe Building, St. Paul, Minn.; Kelsey-Markham-Druar Dam site on *St. Croix River*, between *Minnesota* and *Wisconsin*.

St. Cloud Water-Power Co., A. G. Whitney, president, St. Cloud, Minn.; to construct dam across *Mississippi River* at any point between Sec. 7, T. 123, R. 27, in County of Stearns and State of Minnesota, and Sec. 25, T. 35, Range 31, and Sections 30 and 31, in T. 35, Range 30 W., in Sherburne county, Minnesota.

Missouri.—W. R. Banks, Lock Box 1005, Lamar, Mo.; *Osage River*, between towns of Warsaw, Benton county, Missouri, and Tusculumbia, Miller county, Missouri, and *Nangua River*, between towns of Hahatonka, Camden county, Missouri, and mouth of the *Little Nangua River*, in Camden county, Missouri.

Western Tie & Timber Co., Warren C. Nixon, vice-president, 005 Syndicate Trust Building, St. Louis, Mo.; preliminary permit for power project on *Current River*, Missouri, in Ripley, Carter and Shannon counties.

Montana.—Rocky Mountain Power Co., Charles MacGreor, president, Butte, Mont.; *Flathead River*, from the outlet of Flathead Lake to the intersection of Flathead River with the south line of Sec. 32, T. 19 N., R. 21 W., Montana Mer., *Montana*.

New Jersey.—The Canada Syndicate, Ltd., of Montreal, Canada, and Duncan, Young & Co., 111 Broadway, New York City, N. Y.; *Delaware River*, above the town of Belvidere, N. J.

New York.—City of Buffalo, A. W. Kreinheder, acting Mayor, Buffalo, N. Y.; *Niagara River*.

Henry Ford & Son, Inc., Dearborn, Mich.; Green Island, Government Dam at Troy, *New York*, *Hudson River*.

Louisville Power Corporation, Walter F. Wilson, president, Massena, N. Y.; Hugh L. Cooper, attorney; *St. Lawrence River*, from the west end of Croil Island (sometimes called Baxter's Island, or Upper Long Bault Island) westerly up the St. Lawrence River to the easterly end of Gooseneck Island, in the town of Louisville, County of St. Lawrence and State of New York.

Hydraulic Race Co., C. E. Dickinson, president, Lockport, N. Y.; *Niagara River*, *New York*.

Brady, Paul T., 165 Broadway, New York City, N. Y.; *Delaware River*, at a point between the village of Barryville, on the New York side, and the village of Shohola, on the Pennsylvania side of the river.

Lower Niagara River Power & Water Supply Co., J. J. Albright, president, Lewiston, N. Y.; Hugh L. Cooper, attorney; point about 500 feet south of the Michigan Central Railroad bridge, which point is about midway between Cleveland avenue and Niagara avenue, in the City of Niagara Falls, N. Y.; water to be returned to *Niagara River* at a point on the town of Lewiston, Niagara county *New York*, on Lot 29 of the Mile Reserve.

Messrs. Thomson & Porter, DeWitt Clinton, attorney, Buffalo Savings Bank Building, Buffalo, N. Y.; *Niagara Gorge*.

Bowen, Millard F., 117 Tennessee avenue N. E., Washington, D. C.; to divert water from Lake Erie and Niagara River and from watersheds between Lake Ontario and the Hudson River.

Niagara County Irrigation & Water Supply Co., Edward Randell, president, Lewiston, N. Y.; *Niagara River*, *New York*.

Niagara Falls Power Co., Paul A. Schoellkopf, president, Niagara Falls, N. Y.; to divert water from *Niagara River* above the Falls, under the provisions of the treaty between the United States and Great Britain, proclaimed May 13, 1910.

Niagara, Lockport & Ontario Power Co., Fred D. Corey, president; Hugh L. Cooper, attorney, Farine Trust Co. building, Buffalo, N. Y.; above the *Falls at Niagara*.

St. Lawrence Transmission Co., F. A. Stoughton, president, Potsdam, N. Y.; *St.*

Lawrence River in vicinity of Long Sault Rapids, St. Lawrence county, *New York*.

Messrs. Thomson & Porter, DeWitt Clinton, attorney, Buffalo Savings Bank Building, Buffalo, N. Y.; *Niagara River*, *New York*.

Niagara Gorge Power Co., Bert L. Jones, vice-president, 604 Ellicott Square, Buffalo, N. Y.; *Niagara Falls*, *Niagara River*, *New York*.

Oklahoma.—C. P. Chenault, Tulsa, Okla.; *Arkansas River*, at a point commonly known as Ox Bow Bend, northwest of Tulsa, Okla.

Oregon.—Grown Willamette Paper Co., Pittock Block, Portland, Ore.; Falls of *Willamette River*, West Linn, *Oregon*.

Pennsylvania.—W. A. Dromgold, York, Pa.; *Susquehanna River*, at or near Cumberland, below the mouth of Yellow Breeches, Pa.

Virginia.—Roanoke River Development Co., H. G. Buchanan, president, 318 Mutual Building, Richmond, Va.; *Roanoke River*, in Mecklenburg county, Virginia, between Bugg's Island and the town of Clarksville in said county.

Washington.—Washington Irrigation & Development Co., H. J. Pierce, president, 905 White Building, Seattle, Wash.; Priest Rapids, *Columbia River*, *Washington*.

Alex. Polson, M. E. Reed and W. H. Abel, Montesano, Wash.; headwaters of *Wynoochee River*, in Olympic National Forest, *Washington*, and northeastern part of Gray's Harbor.

Hugh L. Cooper, 101 Park avenue, New York City, N. Y.; Clark Fork of the *Columbia River*, *Washington*.

Sound Power Co., H. O. Pond, president, 25 Broad street, New York City, N. Y.; *Sultan River* and *Olney Creek*, in Snohomish county, *Washington*.

Straits Power Co., H. O. Pond, president, 25 Broad street, New York City, N. Y.; *Soldue River*, *Crescent Lake* and *Lyre River*, in Clallam county, *Washington*.

Northwestern Power & Manufacturing Co., Donworth, Todd & Higgins, attorneys, Hoge Building, Seattle, Wash.; Lake Crescent, in Clallam county, *Elkha River*, in *Washington*.

Priest Rapids Irrigation District, by W. J. Kincaid, president, White Bluffs, Wash.; Priest Rapids of *Columbia River*, *Washington*.

West Virginia.—Tri-State Power & Milling Co. of West Virginia, Tri-State Power Co. of Virginia, O. L. Stearnes, president, Salem, Va.; below Anderson Falls of *New River*, in Summers county, *West Virginia*.

POWER SURVEY STAFF NAMED:

TWO BUREAUS TO CO-OPERATE

The Sundry Civil Act for this fiscal year carries an appropriation to the United States Geological Survey "for a survey of power production and distribution in the United States, including the study of methods for the further

utilization of water-power and the special investigation of the possible economy of fuel, labor and materials resulting from the use in the Boston-Washington industrial region of a comprehensive system for the generation and distribution of electricity to transportation lines and industries."

This power survey, which is, in fact, a by-product of war work of the Geological Survey, is now being actively organized and pushed by that bureau. A special engineering staff has been organized with headquarters at 709 Sixth avenue, New York. The staff is headed by Wm. S. Murray, consulting engineer of New York. The other members of the staff are Henry Flood, Jr., engineer-secretary; L. E. Imley, electrical engineer of Niagara Falls, division engineer, power and transmission; H. W. Butler, mechanical engineer of New York, division engineer, industries; Cary T. Hutchinson, consulting engineer, New York, division engineer, railroads. These men will be assisted by Lyle A. Whitsit, H. Goodwin, Jr., Norman C. McPherson and others.

The engineering staff will be assisted by an advisory board, of which the following members have already been appointed by Secretary Payne: L. P. Breckenridge, head of mechanical engineering department, Yale University, representing fuel engineering, chairman; E. G. Buckland, vice-president N. Y., N. H. & H. R. R., representing New England railroads; A. T. Hardin, vice-president of New York Central Railroad, representing New York railroads; J. H. McGraw, president McGraw-Hill Book Co., representing technical publicity; J. H. Pardee, president of the J. G. White Management Corporation, representing the American Electric Railway Association; M. W. Alexander, managing director of the National Industrial Conference Board, representing that board; R. H. Aishton, president of the Chicago & Northwestern Railway and of the American Railway Association, representing the association, and Arthur D. Little of Arthur D. Little, Inc., representing the electro-chemical and by-products industries. Two additional men will be appointed to the board representing the National Electric-Light Association.

The regular personnel of the two bureaus of the Department of Interior concerned, namely, Geological Survey and Bureau of Mines, are represented on the engineering staff by N. C. Grover, chief hydraulic engineer, Geological Survey, and O. P. Hood, chief mechanical engineer, Bureau of Mines. With Professor Breckenridge on the advisory board and Mr. Hood on the engineering staff, full recognition will be given to important fuel problems related to the investigations. Mr. Hood will be directly responsible for the coal-mining studies necessary to the question of establishing mouth-of-mines power stations.

LEASING ACT EFFECTIVE WHOLE DAY FEBRUARY 25

Secretary of the Interior Payne has ruled that the leasing act of February 25, 1920, was in force and operation during the entire day, subject, however, to the privilege of any person having a substantial right which would be affected by the application of the general rule of law to this effect to prove, if he can, the exact time the measure received the President's signature. His ruling follows:

"All locations made or applications filed, pursuant to Section 13 of the Act of February 25, 1920, at any time during the day of February 25, 1920, will be held, treated and regarded as simultaneous, and in case of conflict of location and application, in whole or in part, between two or more qualified applicants, all such applicants will be allowed 30 days from notice within which to compromise their differences by division of lands or otherwise, in default of which this Department will make such division or disposition as the facts may warrant."

The Act of February 25 authorizes the Secretary of the Interior, under such rules as he may prescribe, to grant prospecting permits upon not to exceed 2560 acres of land and permits would-be applicants to initiate preference rights, good for 30 days, by posting notice upon the ground. Neither the statute nor the rules and regulations promulgated thereunder confer upon locators the right to obtain a prospecting permit for the entire acreage described in any notice of location. The statute merely limits the maximum acreage which may be embraced in a single permit. Paragraph 2 of the regulations approved March 11, 1920, states that the granting of permits "is discretionary with the Secretary of the Interior, and any application may be granted or denied, either in part or its entirety, as the facts may be deemed to warrant."

It is known that in some instances notices were posted on the day the President signed the bill, but at an hour before he actually affixed his signature, while in other instances prospectors awaited receipt of telegraphic advice that the measure had been approved and immediately thereafter posted notices upon the land. These circumstances made the rendition of an opinion by the Secretary of the Interior necessary.

Following is a digest of recent rulings in relation to oil and gas permits and leases:

Discovery on Adjoining Claims

In case of two claims that adjoin, it is necessary to have discovery on each claim to secure lease for both under Section 18. If the discovery is only on one claim the lease must be confined to the limits of the claim containing the discovery.

Assignee's Right to Lease

The grantee of good faith locators may transfer his interest to contractors, assignees or lessees who were in possession prior to

July 1, 1919, and each of such owners may then apply for a lease of such portion of the claim as may be agreed upon among those entitled to the claim as a whole. This is contingent upon the condition that grantee of locators has not been holding more than the maximum allowed under Section 18 of the leasing act.

The following permits have been issued since August 1:

Montana.

Lew L. Callaway, Billings, 240 acres.
Geo. B. White, Lewistown, 320 acres.
Riva Plata Petroleum Association, Lewistown, 160 acres.
Eulala Oil and Gas Association, Lewistown, 120 acres.
Catlin Dome Oil and Gas Association, Lewistown, 160 acres.
Bonanza Oil and Gas Association, Lewistown, 125.69 acres.
Frank Morgan, Lewistown, 640 acres.

California.

J. W. Fisher, Independence, 1280 acres.
Will J. Stanton, Independence, 1280 acres.
Gwin S. Butler, Independence, 2560 acres.
W. A. Sage, San Francisco, 1200 acres.
Clara G. Arwood, Los Angeles, 2560 acres.
Nellie G. Wilson, Los Angeles, 2560 acres.
Clarence G. Atwood, Los Angeles, 2560 acres.
Cora P. Morris, Los Angeles, 2520 acres.
Frank Hall, Los Angeles, 2400 acres.
James B. Adair, Los Angeles, 2275.90 acres.
Ruth E. McCormick, Los Angeles, 2560 acres.
Elizabeth W. Perry, Los Angeles, 2240 acres.
Kramer Consolidated Oil Co., Los Angeles, 2560 acres.
J. D. Bell, W. H. Everhard and W. O. Webster, Independence, 2560 acres.
C. C. Newkirk, Independence, 2560 acres.
D. H. Bean, Independence, 2560 acres.
John E. Alexander, San Francisco, 120 acres.

New Mexico.

Herbert Chesbro, Santa Fe, 2440 acres.
Geo. H. Hook, Santa Fe, 2240 acres.
Willis H. Collins, Ft. Sumner, 2240 acres.
W. M. Edwards, Las Cruces, 2560 acres.
E. C. Rice, Las Cruces, 2560 acres.
Edward C. Wade, Las Cruces, 2560 acres.
Thomas F. Crohan, Las Cruces, 2560 acres.
E. C. Wade, Las Cruces, 2560 acres.
C. J. Mapel, Las Cruces, 2560 acres.
C. V. Nafe, Las Cruces, 2560 acres.
J. W. Stewart, Las Cruces, 1920 acres.
J. H. McLaughlin and Ray W. Stewart, Las Cruces, 2560 acres.
Charles Henry Goard, Ft. Sumner, 2400 acres.
Marshall F. Hobson, Ft. Sumner, 2560 acres.
Lunford P. Schency, Ft. Sumner, 2560 acres.

Nevada.

Sidney E. Allen, Carson City, 2560 acres.
John K. Miller, Carson City, 1800 acres.
W. A. Browne, George W. Elliott and John R. Jones, Carson City, 240 acres.
Geo. Ernst, Carson City, 2560 acres.

Charles B. Hall, Carson City, 640 acres.
Grace Porter, Carson City, 2560 acres.
Mary A. Colburn, Carson City, 120 acres.
A. J. Burke, F. W. McPherson, J. A. Roth and Frank Hartung, Carson City, 1920 acres.
Earl B. Stuver, Carson City, 2560 acres.
Albert Allen, Carson City, 2560 acres.
Clarence W. Crehore, Carson City, 1280 acres.
R. N. Stuver, Carson City, 2160 acres.
W. E. Harrison, Carson City, 2560 acres.
Frank Harriman, Carson City, 1920 acres.
Andrew Aiken, Carson City, 1280 acres.

Wyoming.

Paul B. Gaylord, Cheyenne, 1800 acres.
F. F. Kelley, Cheyenne, 2560 acres.
J. W. Wisda, 640 acres.
Herbert H. Morrill, Lander, 640 acres.
E. Dana Carter, Lander, 320 acres.
Clara F. Collins, Buffalo, 1162.70 acres.
Stanley F. Gorman, Buffalo, 640 acres.
George Best Crisman, Buffalo, 640 acres.
Michael J. Keane, Buffalo, 640 acres.
Thos. W. Brahany, Buffalo, 480 acres.

Arizona.

Charles Sauer, Phoenix, 2560 acres.
Thos. C. C. Oswald, Lander, 320 acres.

Utah.

Ernest S. Cowie, Salt Lake City, 1280 acres.
William J. Tidwell, Salt Lake City, 1280 acres.
Jesse W. Seeley, Jr., Salt Lake City, 1280 acres.

Idaho.

B. F. McCune, Lewistown, 400 acres.
Russell E. Barrett and William J. Barrett, Lewistown, 240 acres.
Henry E. Bowles, Hailey, 1875.60 acres.

Colorado.

Prince E. McCracken, Denver, 80 acres.

New Mexico.

Clinton B. Weegs, Santa Fe, 640 acres.
Jerry B. Farris, Santa Fe, 640 acres.
John R. Magill, Santa Fe, 640 acres.

A new compilation of oil and gas regulations will be published very shortly by the Interior Department. Copies of these regulations will be furnished to our members by the American Mining Congress.

TRADE PRACTICE SUBMITTAL ON PRICE DECLINE GUARANTEE

The Federal Trade Commission will hold a trade practice submittal on the subject "Guarantee Against Decline in Price" at its Washington office on October 5. Questionnaires to the number of 2000 have been sent out to purchasers, manufacturers, merchants and consumers, inviting them to express their opinions in advance and later to participate in the hearing. Answers have been received from more than 50 major lines of industry, including tin, brass and bronze, iron and steel, petroleum and the construction industries, as well as from many trade associations.

A trade practice submittal, as defined by the Federal Trade Commission, is a meeting of a whole industry or group of industries in the presence of the commission to discuss merits

and demerits of business practices which have been complained of to the commission, to the end that expert expressions of opinion by the industry as to the fairness or unfairness of various competitive methods may be crystallized and recorded, the findings of the meeting being accepted by the commission as the judgment of the trade as to a given practice. The commission does not participate in the meeting except to ask questions.

In explaining the effects of such a round-table discussion the commission made the following statements to recipients of invitations: "If the practically unanimous opinion of the representatives of the business world condemns a given practice, the commission receives that expression of the industry as being founded on expert knowledge and business experience with respect to the condemned practices, and likewise the sanctioning of a practice by the industry, even though the propriety of that practice has been questioned by application for the issuance of a complaint, is similarly regarded as being the expression of industry based upon experience and business judgment.

"Such a practically unanimous expression on the part of a representative body of an industry is given great weight by the commission in considering such practices. It should be understood that it represents no decision or judgment on the part of the commission, and is in no sense binding upon anyone not present at the meeting. Nor, indeed, is it binding upon anyone who is present at the meeting but who dissents from the majority opinion. The effect is that the weight of the opinion of the industry has been communicated to the commission, and that thereafter the commission will feel it to be its duty, in case complaints are made to it of a continuance of the condemned practices, to issue its formal complaint, after inquiry and the public interest determined, in order that by means of a formal and orderly proceeding with an opportunity for subsequent court review, the judgment of the meeting may be subjected to the final test of the courts. Also, in case of a division of opinion on any given practice, the commission considers the question to be so much in doubt that it should be left entirely open to be challenged, if anyone desires to challenge it, and made the subject of a more formal proceeding.

"To sum up, then, the trade practice submitted amounts to a request on the part of the commission to a given industry or industries that an opinion be given with respect to the fairness or unfairness of any trade practices which have grown up or are growing up, and that this opinion is received by the commission as the best and most authoritative judgment then obtainable, but that this judgment may be challenged by any party in interest and thereafter may be made the subject of a more minute examination in a proceeding around which are thrown all the safeguards of a proceeding in court."

SEWALL'S POINT CLASSIFICATION MAY STANDARDIZE COAL TERMS

Fulfillment of a co-operative agreement entered into between the United States Bureau of Mines and the Sewall's Point Coal Exchange, Inc., will result in the first scientific classification of an entire coal field ever made by the Bureau. The investigations, which will require from three to six months, may also lead to the adoption of a definite set of terms for expressing the grade and classification of bituminous coal—terms whose meaning will be identical, irrespective of the field to whose coal they may be applied, and which will be understood alike by laymen and professional men everywhere.

The need of thorough classification, based upon scientific analyses, of the entire field along the Virginian Railway has long been felt by the Sewall's Point Coal Exchange, Inc. With this idea in mind, the exchange a few weeks ago retained J. S. Burrows, engineer, of New York. After surveying the situation for a month, Mr. Burrows suggested the co-operative agreement which was entered into between Dr. F. G. Cottrell, director of the Bureau of Mines, and G. H. Caperton, president of the Sewall's Point Coal Exchange, Inc., and approved by the Secretary of the Interior.

This agreement sets out that the Bureau and the exchange desire to "conduct investigations concerning the preparation of coal with a view of increasing efficiency in use and economic development of the industry by improving the grading and classification of coal shipped to tidewater pools," and contains the following stipulations respecting the actual work to be done:

Co-operative Agreement

1. All work herein described shall be directed by the Bureau of Mines according to a program as mutually agreed upon between the Bureau and the exchange, and all methods employed shall be the standard methods of the Bureau of Mines.

2. In the district to be investigated the Bureau agrees to complete a list of mine samples and analyses.

3. The Bureau agrees to obtain at the mine-tipple, point of delivery, or other place as agreed upon, representative samples of the commercial coal as shipped by the several mines.

4. The Bureau agrees to furnish the necessary portable field equipment for the samplers.

5. The Bureau agrees to make, at its Pittsburgh laboratory, approximate analyses and B. T. U. determinations of all samples which are acceptable to the Bureau, and ultimate analyses and fusing temperature of ash determinations of such analyses as may be mutually agreed upon. Reports of the laboratory determinations will be furnished the exchange

as soon as made, together with such information as appertains thereto.

6. All analyses may be published by the Bureau of Mines, due credit being accorded the exchange for its co-operation, but the exchange shall have the privilege of prior publication in a form mutually agreed upon for the confidential information of members of the exchange.

7. The conduct of all the foregoing described work shall subject the Bureau of Mines to no expense other than for general direction. To this end the exchange agrees to pay salaries, subsistence and traveling expenses of field men engaged in taking mine samples while so engaged; to pay the salaries and expenses of samplers obtaining commercial samples, and to furnish all necessary labor and such heavy appliances as may be needed in the sampling, and to pay the salaries of men engaged in laboratory work to the extent of the actual cost of such analyses made for the exchange.

8. The extent of this program as to number of men employed and amount of work undertaken shall be a matter of mutual agreement in writing between the exchange and the Bureau.

9. It is mutually understood that this agreement shall be effective after being signed by the parties thereto, upon its approval by the Secretary of the Interior, and that it shall continue in effect until the work herein contemplated shall have been completed, provided that at the end of six months the agreement can be terminated by either party upon not less than 30 days' notice to the other party.

The last classification of mines along the Virginian Railway was made by the Tidewater Coal Exchange, and was continued under the direction of the Fuel Administration, and, with a few modifications, it still obtains. This classification is not satisfactory, because it is not based on scientific analyses. The Bureau of Mines intends to take samples of coal from the face of the seam and from the tippie as it is being loaded from every mine along the Virginian Railway sending its coal to Sewall's Point, and later to take samples also at the point of delivery, and to classify the product of each mine with respect to amount of volatile matter and fixed carbon, sulphur and moisture content, ash residue and B. T. U.

Simplification of System

While the adoption of a set of terms, universally understood, is not the object of the co-operative work to be done at Sewall's Point, it is considered by some of the Bureau of Mines experts that progress along that line may be one of its by-products. Advantages of scientific analyzation of all coals, and use of a vocabulary of classification universally understood, are obvious. If a merchant should tell a prospective customer that of two gold rings offered for sale, the metal in one was

mined in Colorado and that in the other came from Idaho, he would not convey to the customer any idea whatever of the relative value of the two pieces of jewelry, or even of the actual worth of either. But if he should say that one ring contained a certain weight of 14-carat gold and the other an equal weight of 18-carat gold the customer would at once recognize a difference in values. Likewise such terms as "Pool 1, Tidewater Classification," and "Pool 3, Tidewater Classification," convey very little meaning, since they do not imply any particular amount of volatile matter, fixed carbon, sulphur, ash or moisture or any approximate number of B. T. U. But if the term "No. 1," for instance, were known to apply only to coal containing volatile matter, fixed carbon, sulphur, ash and moisture, and B. T. U. varying in amounts only within a definitely established maximum and minimum range, it would be readily understood. Whether the number of varieties of coal is too great to permit the placing of every mine in a class with some other mine, or mines, remains to be decided. But if the system is eventually worked out it will be possible for producer, dealer and consumer to know the specification of any coal, irrespective of the location of the mine from which it is taken, by ascertaining its classification.

The Bureau of Mines has made analyses of coal for foreign governments upon frequent occasions. It analyzes all shipments to the Panama Railway. It is the hope of the Bureau that operators all over the country will seek co-operative arrangements similar to the one which has just been entered into with the Sewall's Point Exchange, and that eventually every American mine will be definitely classified on a scientific basis.

JOHN GEORGE LEYNER, PIONEER MINING APPLIANCE INVENTOR

John George Leyner of Denver, Col., was killed by an automobile accident near Denver on August 5. Mr. Leyner was an American genius of exceptional ability, a pioneer in rock drilling and mining appliances, and an inventor who has contributed much to the industrial progress of his age. No man, in fact, has done as much in the past generation to advance the art of removing rock. Through his inventions the rock drill has passed from the percussive stage, involving machinery of heavy weights, to the hammer stage, where the rock drill has become a thing but little larger than a pneumatic tool. To Ingersoll, Joseph Githens and Sergeant belongs the credit for the development of the percussive or piston type of rock drill. During this development, and up to an early period following 1900, engineers considered it impracticable to build a rock drill on any plan other than that involving a rigid and direct connection between the steel carrying

the bit and the piston; that is, the drilling bit was an extension of the piston rod. To make a rock drill on this plan and reduce its weight to a point consistent with practical handling in mines and slopes, to simplify it in its mechanism, and to make it stand up against hard usage were problems that taxed the best energies of inventors between 1870 and 1900. Henry C. Sergeant came to the front and is the recognized leader in the perfection of the piston type of drill.

Mr. Leyner was the first to attack this system. He pointed out what was generally admitted, that the piston type was necessarily heavy, that it was limited in drilling capacity because of the limit to the number of strokes it could make, and he advocated and patented the use of the piston as a hammer only, to strike the end of the steel or an intervening medium connected with the steel. He introduced a water jet through the piston into the bit for clearing the hole cuttings. His system patent was taken out in 1903 and his method patent in 1904.

Incorporating the Leyner Engineering Works in 1902, Mr. Leyner built shops at Littleton, Col., soon thereafter. Engaged as he was in pioneer work, developing a new and radical principle in the art of drilling, he encountered many obstacles, mechanical and financial. To build a drill on the Leyner principle required not only superior excellence of design, but the material and workmanship, unless of the highest quality, would naturally result in breakages and excessive wear and tear. For a period of 12 years, in spite of difficulties and successful attacks made upon his drill by the old and leading companies—the Ingersoll-Sergeant Drill Co. and the Rand Drill Co.—Leyner stuck to his guns, until in 1911 the Ingersoll-Rand Company took over all his patents and inventions, transferred the manufacture to their works at Phillipsburg, and the Leyner-Ingersoll type of drill was from that time a standard. It has often been said that all that the genius of Leyner required was the experience and mechanical skill of the Ingersoll Company to make a success of this new principle. The Jackhammer, which might almost be placed in one's overcoat pocket, is built on the Leyner principle. This is the most generally used rock drill of today, not only in America, but throughout the world. The water Leyner, now known as the Leyner-Ingersoll, is now widely used, replacing entirely the old piston type of drill for mining and tunnelling. It holds the world record for fast tunnel driving.

Leyner's other inventions include the drill sharpener, now recognized as the simplest form of sharpener and the one most widely used throughout the world. It has been estimated that this sharpener is used for sharpening about 90 per cent. of all the machine-sharpened steel in the world. Leyner also invented the Little Tugger hoist used in mines

and shipyards. He built the original machines used for producing shredded wheat. His latest invention is the "Linapede" or Leyner Farm Tractor. He was engaged in the development of this tractor at the time of his death.

Mr. Leyner was born in Boulder county, Colorado, in 1860, being the first white child born in that county. He was the son of Mr. and Mrs. Peter A. Leyner. He leaves a widow and three adopted children.

A product of the great West, Leyner was a man of strong physique, a worker with his hands and his head, and stubborn and determined in having his way. It was this faculty which helped him bring his radical idea about the rock drill to the point of fruition. Most men would have given up against such difficulties as he encountered. He was not an easy man to get along with, for he would brook no interference with his authority. Like most inventors, his main strength was mechanical, though, unlike most inventors, his vision was laid on practical lines and in advance of conventional things.

The mining industry owes much to Leyner's genius, the world much to the mining industry. To have reduced the cost of removing rock and ore, as Mr. Leyner has done, is an achievement which should place him at the front among America's great inventors.

RIGHT OF APPEAL FOR WAR MINERALS RELIEF CLAIMANTS

War Mineral Relief claimants in large number appeared before Secretary Payne on August 10 for conference to determine the status of the War Minerals Relief Commission and the attitude of the Secretary on the four questions:

- Request and demand,
- Commercial importance,
- Net losses,
- Purchase of property,

and to determine the attitude of the Department toward the bill now pending in Congress to grant these claimants the right of appeal to the Court of Claims. The hearing was opened by the statement of Herbert Wilson Smith, Chief of the War Minerals Division, on behalf of the claimants. Edgar Watkins, attorney for the Chestatee Pyrites & Chemical Co., made a vigorous statement on behalf of his claimants and in opposition to the ruling and attitude of the Commission in their handling of this particular case. Henry R. Harriman requested from the Secretary a statement concerning the status of the Commission, inquiring specifically as to whether the Commission was engaged in defense of the Government, or whether it was engaged and should act in the capacity of a *nisi prius* court. This was followed by a detailed statement from Mr. Smith concerning the present bill to grant claimants an appeal to the Court of Claims, in which it was particularly pointed out that

the existing law gives the Government the right of appeal to any of its duly constituted branches, including the Court of Claims, in opposition to the award granted any claimant, and does not give the claimant any right of appeal in opposition to any award granted to the Government. It was also pointed out that claimants under the first section of the same act in claims to the War Department already have this right of appeal.

Senator Shafroth, Chairman of the Commission, stated that the work of the Commission had been arduous and thoughtful and designed to give such relief as the interpretation placed upon the law would permit. Secretary Payne stated that the work of the Commission had been painstaking and careful and that he personally had gone into the merits of several cases and had given personal consideration to the whole situation.

At the conclusion of the hearings, Secretary Payne agreed:

First—To write a letter to Congress stating that the Interior Department had no objections and offered no opposition to the passage of the bill giving the claimants the right of appeal to the Court of Claims.

Second—He agreed also to choose with the consent of the claimants typical cases covering typical points on which decisions should be based, and upon agreement with the claimants to hear these typical cases personally in an effort to arrive at decisions on the mooted points.

He further agreed to hear any case on appeal on which the claimant felt that he had not received justice.

ORGANIZE NEW MEXICO CHAPTER OF AMERICAN MINING CONGRESS

The need for a New Mexico chapter of the American Mining Congress has been so apparent for years and its organization has been urged so frequently that it is gratifying to learn that such a movement is now on foot. It has been easy to make the needs of the industry in its unorganized condition somewhat of a political football in State politics. An organization which would place the economic status and importance of the industry foremost and remove it from the political arena would be most welcome to everyone interested in mining this large and so comparatively undeveloped region of the Southwest. Such a movement has been undertaken, and it is apparent that a substantially organized chapter of the Mining Congress to include the entire mining industry of the State and to express its best thought and most worthy ideals will soon be well established. Of the first steps in this movement, the Silver City Enterprise has the following to say:

A two-day session of the mine operators of New Mexico in Silver City Monday and Tuesday of this week, resulted in the organization

of the New Mexico Mining Association, preliminary to the making of an application for a charter for a State chapter of the American Mining Congress. More than 30 leading mining men of the State were in attendance. John M. Sully, manager of the Chino Copper Company's operations at Santa Rita and Hurley was chairman.

The meeting named a special committee to meet with the Special Revenue Commission in Santa Fe, August 18. This committee is composed of G. A. Kaseman, Albuquerque; E. M. Sawyer, Tyrone; C. T. Brown, Socorro; I. J. Stauber, Lake Valley; Robert I. Kirchman, Silver City; P. H. Argall, Magdalena; Gregory Page, Gallup; and Mr. Sully. The committee which had instructions to complete data relating to taxation matters for presentation to the State commission, held preliminary meetings in Silver City this week, following the adjournment of the general meeting Tuesday afternoon.

The New Mexico Mining Association chose John M. Sully as chairman, and Mr. Sully's assistant, N. C. Cross, as secretary, with authority to take necessary steps toward the perfection of the organization so that application for a State charter may be made to the American Mining Congress. The executive committee consisting of ten members was appointed as follows: B. N. Hanger, Albuquerque; Powell Stackhouse, Jr., San Antonio; S. I. Kidder, Mogollon; E. M. Sawyer, Tyrone; Ira L. Wright, Silver City; C. T. Brown, Socorro; J. B. Gilchrist, Fierro; M. W. Porterfield, Silver City, and John M. Sully, chairman, ex-officio member. Burton Bunch, secretary of the Grant County Chamber of Commerce, was appointed secretary to the executive committee, with instructions to correspond with the American Mining Congress concerning a State charter.

A State-Wide Representation

The mining men in attendance are as follows: O. Wiser, president Metal Exploration Company, Hurley; Arthur Thacher, New Jersey Zinc Co., St. Louis, Mo.; K. A. Strand, Empire Zinc Co., Hanover; A. R. Flinn, Empire Zinc Co., Hanover; E. P. Seeley, superintendent Mexarko Mining Company, Silver City; M. W. Porterfield, Silver City; G. A. Kaseman, president Albuquerque & Cerrillos Coal Co., Albuquerque; W. C. Porterfield, Silver City; Powell Stackhouse, Jr., Carthage Fuel Co., San Antonio; E. M. Sawyer, manager Phelps Dodge Corporation, Tyrone; L. M. Kniffin, manager Hanover Bessemer Iron & Copper Co., Fierro; B. H. Kinney, Tokay, N. M., coal mining; I. J. Stauber, Lake Valley; O. F. Riser, superintendent of mills, Chino Copper Co., Hurley; Horace Moses, general superintendent Gallup American Coal Co., Gallup; B. B. Hanger, general manager Diamond Coal Co., Albuquerque; A. L. Owen, vice-president Mimbres Mining Co., Santa

Rita; R. I. Kirchman, Silver City; John M. Sully, general manager Chino Copper Co., Santa Rita; F. J. Anderson, acting superintendent Chino Copper Co., Hurley; G. L. Webster, cashier Chino Copper Co., Hurley; D. W. Boise, mill clerk Chino Copper Co., Hurley; S. J. Kidder, Mogollon Mines Co., Mogollon; E. C. Stimson, Empire Zinc Co., Denver; Gregory Page, Gallup; J. F. Woodbury, Silver City; Percy Wilson, Silver City; N. C. Cross, Hurley; F. W. Vollacott, Silver City; E. E. Ellinwood of Ellinwood & Ross, Bisbee, Ariz.; H. C. Denney, Gallup, and C. A. Moore, Empire Zinc Co., Hanover.

METAL PRICES HOLD WHILE

FOOD AND TEXTILES SOAR

Wholesale prices of minerals and metals, especially coal, advanced less during the war and remained at lower and more nearly stationary levels during the entire period of hostilities than did those of either food or clothing. In the spring of 1910, when food and clothing prices began their record ascension, which continued well into the current year, minerals and metal prices started in the opposite direction, and in March, 1920, when consumers were complaining of food and clothing prices more than three times those of the pre-war period, wholesale prices of coal and other minerals and metals ranged from 60 to barely 60 per cent. above 1914 quotations.

Anthracite coal advanced less during the six-year period, and sustained a lower level of advance as late as March, 1920, than any other commodity compared by the Bureau of Labor Statistics of the Department of Labor. Bituminous and other minerals and metals from January, 1918, to May, 1919, maintained levels almost as far behind those of other commodities as they were ahead of those of anthracite. While animal foods receded to the levels of bituminous and other minerals and metals in March, 1920, the discrepancy between the latter and vegetable foods, textiles and leather goods was even more marked.

Using 100 as the pre-war figure, the Government found the following wholesale advances prevailing in March, 1920:

Commodity.	Per cent. increase.
Anthracite	60.3
Bituminous	86.4
Animal foods	87.0
Minerals and metals (excluding coal)	61.3
Vegetable foods	101.0
Textile and leather goods	218.9

Anthracite advanced less during the period than any other commodity, and its quotations were devoid of that wide range of fluctuation which marked wholesale prices of everything else. The 60 per cent. advance recorded in March had been maintained steadily for six months, and this advance itself represented the highest price at which the commodity had been wholesaled since July, 1914.

DANGERS FROM EXPLOSIVES

FUMES IN METAL MINING

By D. HARRINGTON, Supervising Mining Engineer, Bureau of Mines,

and

B. W. DYER, Metal Mining Engineer, Bureau of Mines.

Two recent occurrences in Western metal mines in each of which three men were killed, due to breathing fumes from explosives, have aroused keen interest among mining men not only as to the exact cause of such accidents, but also as to possible preventive measures.

In sinking the 45-degree incline Marsh shaft near Burke, Idaho, on May 13, 1920, a round of holes containing about 60 pounds of 40 per cent. gelatin explosive was blasted by the night shift upon leaving at 11.30 P. M. It was customary for the night shift to leave compressed-air blowers open at bottom of shaft until the compressor was shut down slightly before midnight. Presumably this was not done on the night of the 13th, as the fumes were so heavy in the shaft bottom on the morning of the 14th that at about 8 o'clock Superintendent Bergen and one of the shaft men, on reaching the shaft bottom, were overcome and fell from the bucket into the sump containing about six feet of water; and when two other men went down in the bucket a few minutes later to investigate, one also fell into the sump, and the other was barely able to reach the shaft collar. The three bodies were later on recovered from the sump.

At 4.50 P. M. June 10, 1920, at the Dominion Mine, Colville, Wash., a round of 11 holes, containing about 15 pounds of 60 per cent. nitro-glycerine explosive, was blasted in a 50-degree raise about 50 feet above the main tunnel level by the shift going off for the night. In this mine it was the practice not to try to blow out the fumes until just before the shift went to work the next morning. Although no work was being done on the night shift, one of the raise men, curious to ascertain the effect of the shots, about 7.45 P. M. wandered into the mine (which was a tunnel only a few hundred feet in length), and was missed by one of his companions about an hour later. When three men tried to remove the body of the inquisitive miner, two of them were also overcome; ultimately these two and the first man were removed from the point at which all were asphyxiated, which was practically at the foot of the raise.

In this case the explosive was seven-eighths straight nitroglycerine, used because the ordinary one and one-fourth gelatin was temporarily unobtainable, though the holes were drilled for the larger-sized stick. The explosive, too, was about a year old. While two of the eleven holes missed fire, there was no obtainable evidence of burning of explosive, but later on after blasting these two missed holes, containing possibly three pounds of the explosive, an air sample, taken a few minutes after blasting and essentially at the point at which

the three men had been asphyxiated, gave 0.70 per cent. CO, or sufficient to cause death after having been breathed a comparatively few minutes. It was thought locally that the deaths were due to other gases, but analyses indicate strongly that CO was responsible.

Danger Always Present

These accidents indicate forcibly a danger daily confronting men working in metal mines, and especially in small or prospecting mines. In one case the dangerous fumes were in a shaft, in the other a raise, the deaths in the latter case being, however, practically on the tunnel level. Compressed air constituted the usual method for removal of dangerous gases, and in both cases it failed.

In both cases there is at present no obtainable evidence of defectiveness of explosive or of method of firing, hence the situations are practically such as may be encountered at any of our operating metal mines, especially those operating on a small basis, and the question arises as to possible prevention of such occurrences.

These two disasters are recent, and the loss of life makes them of serious concern, yet the situation brought out is one which confronts nearly all metal mines in the country, large and small. The Bureau of Mines has been asked to attack the problem from various points of view. Some companies having several mines and employing hundreds of men have numerous cases of "*powder gassing*" annually, frequently with fatal results, and have asked the assistance of the bureau largely as to the possible finding of methods of firing of explosives such that no poisonous fumes will be developed. Others wish experimental work along the line of developing a "*fool-proof*" supersafe explosive such that practically, irrespective of method of handling, surrounding conditions, etc., no dangerous fumes may be found, and still others, realizing the probability that dangerous fumes will be generated, irrespective of present-day available precautions, wish information as to positive methods of handling dangerous fumes with idea of their removal.

In Complete Combustion

Theoretically, there are in existence today explosives with constituents chemically balanced such that with complete detonation there should be no resultant gases of more potential danger than CO₂, which, mixed with the almost invariably larger quantities of ordinary air present, would be diluted to such an extent as to be practically harmless. The Bureau of Mines has in several publications (notably in Bulletins 48 and 57, and Technical Paper 17) given data as to proper methods of blasting, selection of explosives, etc. However, numerous air samples at blasting faces in metal mines invariably reveal presence of dangerous gases, due generally to incomplete combustion, these dangerous gases being usually CO and oxides of nitrogen. Dangerous percentages

(upwards of 1 per cent.) of CO have been obtained at drift faces in metal mines after blasting with explosives of ammonium nitrate as well as gelatin base, detonated with No. 8 as well as with No. 6 caps, fired electrically as well as by fuse, tamped and untamped.

The most dangerous gas found in fumes of explosives is CO, of which quantities up to and over 1 per cent. are frequently found in the general air around newly-blasted faces in metal mines, and frequently as much as two or three-tenths of 1 per cent. in air from muck piles several hours after blasting. This gas gives headache in air with proportions as low as 0.05 per cent., and is dangerous at 0.2 per cent., and quickly fatal when over 0.50 per cent. Another gas sometimes found is nitrous oxide, and its effect, while serious, is not likely to be so quickly fatal as that of CO. However, when dynamite burns instead of exploding, the nitrous oxide content of surrounding air may be sufficiently high to cause death to those breathing it. Other dangerous gases, such as H₂S, SO₂, etc., may also be found in explosive fumes, but rarely present in harmful proportions. However, straight nitroglycerine explosive dynamite gives off several times as much CO gas as gelatin or ammonium base explosive, hence straight nitroglycerine should never be used in the confined places found in mining.

It appears that, at least at present, there is no explosive applicable to metal mining in which there is any guarantee that formation of dangerous gases can be prevented in blasting, hence the one feasible preventive is effective ventilation.

Mechanical Ventilation.

It is significant that in 1919 the great coal-mining industry of the United States, which is compelled to give minute attention to ventilation, had but three deaths from suffocation from explosives fumes, though over 760,000 men were employed (see U. S. Bureau of Mines Bulletin 196), or about three times as many employes as in our metal mines. Metal mines only too frequently place entire reliance on natural ventilation or on compressed air, and both are likely to be inefficient, dangerous, and, in the long run, costly. A compressed-air blower will rarely deliver to a working face more than 100 to 150 cubic feet of air per minute. The cost is two to five cents per 1000 cubic feet, and there is danger that at least occasionally the compressed air may, through defective compressing system, be charged with dangerous gases. Ordinary ventilation methods by mechanical fans produce air circulation at a cost of about two to five cents per 1000 cubic feet, and, with proper supervision, will readily deliver several thousand cubic feet of air per minute to working faces, instead of the 100 or thereabouts cubic feet per minute by compressed-air blowers. For dead-end faces of drifts, crosscuts, raises, winzes and shafts small electrically driven fans direct connected to one-half to ten horse-power mo-

tors force air through canvas tubing or galvanized pipe and readily deliver 1000 to 5000 or more cubic feet of air per minute, or 10 to 50 times as much air as can be obtained from compressed-air blowers and at much less cost. These small fans and canvas-pipe or galvanized-pipe units not only remove explosive fumes from the face, but, if operated as blowers, will keep a stream of moving air at point where the machine man or mucker works, and in hot mines especially the workers' comfort and efficiency are greatly improved and his health and safety assured, at least as far as explosives fumes are concerned. Larger metal mines now recognize this, and many new mechanical ventilation installations in large metal mines are found, especially in the West, and the time will soon be at hand when laws will demand efficient mechanical ventilation of metal mines as well as of coal mines, efficient ventilation consisting essentially of providing circulation of ample currents of fresh air at all places where men work underground.—*U. S. Bureau of Mines, Reports of Investigations.*

August Silver Coinage

Silver pieces to the number of 6,770,026, valued at \$1,053,014, were coined at the various United States mints during August. Minor pieces coined totaled 55,092,000, valued at \$954,920. A total of 1,145,000 silver 20-centavos was coined for Cuba.

1920 Iron Production

Total production of all kinds of pig-iron for the first six months of 1920 was 18,435,602 tons. This compares with 16,278,175 tons in the first six months of 1919 and 14,370,189 tons in the second half of 1919. The six months' figures would give an annual pig-iron production of 36,871,204 tons, or an approximate 10 per cent. increase over the 1919 production of 31,015,364 tons. The largest annual production was 39,434,797 tons in 1916, and the largest pre-war year was 1913, with 30,066,152 tons.

Of the total six months' production, basic pig-iron totaled 8,450,694 tons; Bessemer, 5,018,524 tons; foundry, 2,980,201 tons; malleable, 666,165 tons; forge, 168,860 tons, and all others, 251,140 tons. The basic pig-iron total of 8,450,694 tons compares with 7,010,295 tons for the first six months and 6,583,836 tons for the last six months of 1919. Bessemer's total of 5,018,524 tons compares with 5,181,621 tons and 4,794,313 tons for the first and last six months of 1919, respectively.

The total number of furnaces in blast on June 30, 1920, was 322, as compared with 280 on December 31, 1919. Pennsylvania took the lead with a total production of 7,241,726 tons, and Ohio was second with 4,130,811 tons. Alabama produced 1,225,276 tons. Statistics of iron made for sale or for use of the makers themselves show that 13,050,115 tons out of 18,435,602 tons, or 70 per cent., was for the latter purpose, and the balance, 5,376,487 tons, was made for sale.

TWO BUREAUS WORRY WHEN OPERATORS QUIT REPORTING

Various coal producers have become reluctant to submit to the Government reports of production and operating conditions on the ground that such reports may have a possible effect on the indictment case now pending at Indianapolis. Some of the coal men have stated that for this reason their reports no longer reflect actual conditions. The situation has become so serious that Secretary of the Interior Payne has sent the following letter to the Attorney-General:

"The Geological Survey is having difficulty in obtaining current reports of coal production and operating conditions at the mines because of a feeling on the part of coal operators that to continue rendering these reports as in the past would prejudice their position in the pending indictment before the Federal Courts at Indianapolis.

"O. G. Scott, secretary Central Illinois Coal Bureau, of Springfield, Ill., explaining his failure to submit the usual weekly report states: 'Many of our members discontinued their reports on advice of attorneys pending final settlement indictment cases at Indianapolis. Our reports no longer reflect the conditions.'

"The co-operative arrangement whereby the local operators' association collects reports from individual operators and transmits a consolidated report to the Survey at Washington, dates back to June, 1917.

"The weekly report, a copy of the latest issue of which I enclose, is built up on the basis of these operators' reports and has come to be recognized as an authoritative review of production and of the various causes limiting production. It was largely relied upon by the Fuel Administration and the Railroad Administration during the war period as a guide to the success of the efforts then made to increase production. Its importance was never greater than at the present moment, when the country is apprehensive as to its fuel supply. I therefore regard it as of great public importance that no interruption to the continuity of these reports be permitted.

"Permit me to ask, therefore, if it would not be possible for the Department of Justice to issue some sort of statement which would set at rest apprehension as to the legality of the collection and exchange of information of this particular character among operators through the medium of an association."

Palmer's Aide Replies

Henry S. Mitchell, acting assistant to the Attorney-General, replied to Secretary Payne as follows:

"The Attorney-General is in receipt of your letter of August 9, wherein you call attention to the difficulty experienced by the Geological

Survey in obtaining current reports of coal production and operating conditions at the mines because associations of operators which have compiled such reports and transmitted them to the Survey have taken the position, upon advice of counsel, that such reports should be discontinued because of legal proceedings instituted by the Department of Justice, including the indictments of coal operators now pending at Indianapolis, and you ask whether this department could not issue a statement which would set at rest the apprehensions of the operators.

"Of course this department has not taken the position that the collection of statistics as to production, or the transmission thereof to a governmental body, is obnoxious to the law, and I do not know of anything which would afford a real basis for the opinion that the department has taken that attitude.

"The department has taken the position in a number of legal proceedings that a combination or conspiracy amongst producers to limit production or enhance prices, upon the basis of statistics as to production or prices collected by a trade association, is a violation of the Federal anti-trust statutes; but there is nothing in that position inconsistent with the view that information of the character utilized by the Geological Survey may be collected and furnished to that body without using it as a basis for an unlawful restriction of production or enhancement of prices.

"I trust that the foregoing may constitute such a statement as you desired. If there is anything further that you wish done, please inform the department."

Sufficient time has not elapsed since the above interchange of correspondence to judge of its effect upon the regular submission of coal reports.

Commission Hindered

The Federal Trade Commission announced the possible suspension of monthly and quarterly bituminous coal-cost bulletins almost contemporaneously with the making of a statement by Secretary Payne to the effect that many coal operators were opposed to submitting production and operation reports. The commission based its position on the fact that operators were not reporting and that the monthly and quarterly bulletins no longer reflect accurately the true situation.

In 1918 as many as 2482 bituminous operators reported to the Fuel Administration. When the Federal Trade Commission in January, 1920, resumed the collection of information as to costs of bituminous production and operation they believed figures would be supplied by the operators, but only 1589 operators reported in January, 1431 for February, 1681 for March, 812 for April and 680 for May. The commission has announced that it will continue to receive for the benefit of its own

records reports which may be submitted voluntarily by the operators, but that it will issue no more cost bulletins unless a sufficient number are received to reflect the entire situation.

BOLIVIA'S METAL RESOURCES

INTEREST DR. FRANK L. HESS

The United States, having in the last few years become a smelter of tin, is interested in the report of Dr. Frank L. Hess of the United States Geological Survey, who has just returned to this country after an extended trip through the tin-producing districts of Bolivia. Dr. Hess believes that the tin industry of that country has expanded to the point where the labor supply has become a limiting factor which is rapidly growing serious. Bolivia's mineral production comes from an altitude in excess of 14,000 feet. Very little mining is done below the 12,000-foot level. There is a serious lack of proper housing facilities and fuel, and this, together with the rigorous climatic condition, has forced the population on the plateaus to the lower country, thus making the shortage of labor a question of great seriousness. Dr. Hess offers as a solution to this problem the bettering of living conditions so that the Indians of that region may be employed. He states that the American companies and others of the more progressive mining concerns have been taking good care of their own employes for several years. Welfare work, however, has not developed as rapidly as it should, and a great deal of work still remains to be done for the benefit of the entire population of the upper plateaus.

Dr. Hess was considerably interested in the development of the petroleum industry in Bolivia. It seems now a certainty that that industry will furnish a nearly supply of fuel oil. The Guggenheims have built a motor road from Eucaliptus to Caracoles, thereby demonstrating that automobile transportation is possible. The tin industry is constantly expanding and many new properties are being opened. Considerable prospecting is being done throughout the country. The whole of the famous Potosi hill is now being sampled, and it is expected will be developed on a very large scale, largely due to the price of silver, which has given unprecedented stimulus to that industry.

The tungsten properties of Bolivia are not being operated, but Dr. Hess believes that some of them can be operated at present prices. The impetus given this industry during the war proved beyond all question the value of the Bolivian tungsten deposits. Dr. Hess made the statement that he believes that tin deposition in Bolivia was governed by the same processes as govern deposition of tin in other places. He has made a considerable study of this industry, and his statement in this respect differs from opinions expressed by geologists who made earlier investigations of the problem.



1,345,453—*W. N. MacFarland*, Scranton, Pa.

Coal Separator, comprising a screen, trunnions at the ends of said screen intermediate the top and bottom thereof, and bearings for said trunnions permitting both transverse and oscillatory movement.

1,345,790—*Lionel Lodge*, Birmingham, England. Assigned to the Lodge Fume Co.

Electrical Precipitator for Gases, comprising plates forming channels for the gases, discharge electrodes situated transversely and longitudinally between the plates and deflectors for deflecting the gases towards the sides of the channels when passing longitudinally by the discharge electrodes.

1,345,835—*Giulio Clement*, Milan, Italy. Assigned to the Clements Gold Magneto Co.

Apparatus for Separating or Concentrating Fine Metals from Pulverized Material, comprising a hopper, an electric condenser consisting of a metallic sieve, a non-conductive surface, superposed wooden boards carrying said surface and insulated from one another, a metallic block secured to one of said boards, means for creating an electric current of high tension, an electric conductor connected to said blocks, another conductor connected to said metallic sieve and a spark gap for regulating the tension of the current.

1,345,846—*W. E. Greenawalt*, Denver, Col.

Process of Extracting Metals From Their Ores, involving leaching with acid to dissolve the copper, filtering, washing the residue, electrolyzing the rich solution, precipitating the lean solution with hydrogen sulfid, and using the copper sulfid precipitate to reduce the variable valent salts in the electrolyte.

1,345,861—*N. H. Kuryla*, Park City, Utah. Assigned to the Merrill Company.

Filtering Apparatus, comprising a chamber open at its top and bottom, and filtering elements therein, closures for the top and

bottom of the chamber, and means for equalizing the pressure of the closures on the chamber.

1,345,991—*P. B. Brown*, Shenandoah, Pa.
Power Mine Shovel.

1,346,175—*M. H. Caron*, Weltevren, Java, Dutch East Indies.

Process of Recovering Nickel from nickel silicate ores, the steps which consist in subjecting the ore to a preparatory reducing roast and cooling the reduced ore under non-oxidizing conditions.

1,236,286—*L. I. Waterhouse*, Queenstown, Tasmania, Australia.

Flotation Apparatus, comprising baffling means located in the vessel, a dash pot adjacent to the floor of the vessel, frothing fluid delivering means having a discharge opening adjacent to the dash pot and below the baffling means, the stream of fluid discharging downwardly towards the dash pot.

1,346,316—*C. L. Hill*, Lancaster, Pa.

Process of Bleaching Asbestos, consisting of subjecting the fibers to the action of an acid in a gaseous condition in the presence of moisture and then washing the fibers to remove soluble salts.

1,346,610—*F. N. Smith*, Chicago, Ill.
Dry Separator.

1,346,817—*Rudolph Gahl*, Miami, Ariz. Assigned to Pneumatic Process Flotation Co.

Flotation Apparatus, comprising a tank divided into frothing compartments by partitions not reaching down to the bottom of the tank, a concentrates delivery and a whole flow tailings discharge extending upwardly from the bottom of the tank beyond a frothing compartment.

1,346,818—*Rudolph Gahl*, Miami, Ariz. Assigned to Pneumatic Process Flotation Co.

Flotation Apparatus, comprising a receptacle having an impervious bottom, a series of independently removable foraminous air chambers located near the bottom and having longitudinal extending upper surfaces.

1,346,819—*Rudolph Gahl*, Denver, Col. Assigned to Pneumatic Process Flotation Co.

Flotation Process, consisting in introducing additional sand into the normal pulp and subjecting the mixture to froth flotation.

1,346,939—*Robert E. Carmichael*, Damon, Tex.

Method of Sampling Oil Wells.

1,346,966—*S. N. Mighell*, Chicago, Ill.

Coal-mining Machine.

1,347,000—*E. C. Washburn*, Englewood, N. J.
Thawing Apparatus for Coal, comprising a track, means enclosing a space about the track and adapted to retain heated air therein by its buoyancy, and a track portion inclined downwardly under said enclosing means and then upwardly to join said first track portion.

1,347,026—*H. H. Godfrey*, Los Angeles, Cal.
Ore Concentration Table, inclined longitudinally and transversely, said table being covered with cathode, and an anode spaced above said cathode.

1,347,088 and 1,347,089—*W. E. Greenawalt*, Denver, Col.

Electrolytic Apparatus.

1,331,334—*Samuel Field*, London, England; assigned to Metals Extraction Corporation, London.

Purification of Zinc Solutions obtained by the treatment of zinc ores or zinc containing materials with sulphuric acid which comprises treating the solution while agitated and at a temperature of 80 to 100 degrees Cen. with ozonized air in presence of a mixture of manganese dioxide and lead dioxide produced in the electrolysis with lead anodes of a zinc solution containing manganese.

1,331,740—*Edward S. Berglund*, Trollhattan, Sweden; assigned to Sven Hultdt, Stockholm, Sweden.

Treating Zinc Powder within the condenser to cause the liquid zinc particles to unite by subjecting them to rubbing and pressure by the aid of a rotating screw located in the mixture and then forcing the powder through an opening to compress it.

1,331,883—*Francis L. Stuart*, New York.

Coal-Storing System consisting of a particular arrangement of conveyors, bins and tracks.

1,331,964—*Ray C. Newhouse*, Milwaukee, Wis.; assigned to Allis-Chalmers Co.

Grinding Mill of the tube and ball type in which, instead of a ball, the comminuting

body is formed with spherical outer zone surfaces so that the universal rolling and uniform wearing effect is maintained, while the greater surface co-action is secured by providing spherical concave end surfaces adapted for co-action with the outer zone surfaces of adjacent bodies.

1,331,968—*Clifford J. Tomlinson*, West Allis, Wis.; assigned to Allis-Chalmers Co.

Impact Pulverizer in which the hammer or bail comprises a pair of spaced radial arms and a cross-bar detachably secured to corresponding ends of said arms.

1,331,969—*Clifford J. Tomlinson*, West Allis, Wis.; assigned to Allis-Chalmers Co.

Rotary Impact Pulverizer of the type in which there are a pair of spaced rotors having opposed impact surfaces and which are caused to rotate in the same direction.

1,332,152—*Henry Aldmer*, Milwaukee, Wis.; assigned to Allis-Chalmers Co.

Roasting Furnace of the McDougall type in which means are provided for readily detaching the rabble arms, and also for cooling them.

PATENT OFFICE BUSINESS SHOWS RECORD INCREASE

An extraordinary increase in business was made by the United States Patent Office during the fiscal year ended June 30. There were 81,948 applications for inventions filed, as compared with 62,755 during the previous year. The total number of applications of all kinds was 102,940, which is 27,283 more than were filed during the year 1919. The number of patents granted and trade-marks, labels and prints registered was 47,409, an increase of 4056 over the preceding fiscal year.

Cash receipts from all sources, the largest item of which was for first fees in connection with applications, amounted to \$2,615,697.33. Total expenditures were \$2,436,561.37, leaving a net surplus of \$179,135.96. The total net surplus to date is \$8,305,023.56. In 1918 and 1919 expenditures exceeded receipts by \$27,955.62 and \$65,228.13, respectively.

The large increase of business is reflected in the net surplus of receipts during the past fiscal year.

The office shipped to foreign Governments 999,862 copies of patents. It received for record 40,188 deeds of assignment. One of the items which make up the large increase in the volume of business of the office is applications for the registration of trade-marks, in which a gain of 72 per cent. over the number received during the preceding fiscal year is recorded.

The gain in actual numbers of applications filed far exceeded any previous increase of business in any one fiscal year, and this gain is larger than the total receipts of any calendar year in the history of the Patent Office up to and including the year 1881.

RESERVE BOARD REFRAINS FROM CLASSIFYING CREDITS

Because of circulation of reports that the Federal Reserve Board would classify certain lines of credit as essential and others as non-essential, and instruct banks to observe the classification, Governor Harding has issued the following denial:

"The Federal Reserve Banks are adhering consistently to the policies outlined on frequent occasions during the past year, and there is little to say except to reiterate statements already made. The Federal Reserve Board has never undertaken to classify any business or industry as essential or non-essential and does not intend to do so. In a statement published immediately after the conference last May with members of the Federal Advisory Council and the banker directors of the Federal Reserve Banks the policies of the Federal Reserve System were fully explained. The Board is convinced that these policies are wise and salutary, and is confident that results will demonstrate their soundness."

Chamber of Commerce Review

The September financial review of the Chamber of Commerce of the United States contains the following comment upon minerals and metals:

"Whether mining is busy and prosperous or the reverse, depends upon the nature of the metal. Gold mining still suffers from high cost of production and the stationary price of gold. Silver mining feels the effect of the decline in the price of silver. The price of zinc is low, and the demand not equal to the possibility of supply. Lead is higher because of increased demand. Copper is dull because of a supply not yet disposed of. Iron mining is good. Phosphate mines in the South are doing well after many lean years.

"Contraction in financial credits has put 'wildcatting' in the oil regions out of business which makes business there dull because supplies for drilling oil wells are no longer called for.

"Coal mining, as usual, has its flock of troubles—strikes and lack of cars being the principal ones. But they are enough. How the consumers and the business world regard the near future (the remainder of the year) seems to be largely a matter of local conditions."

Alaska Chapter Elects Officers

The regular meeting of the Alaska Chapter, American Mining Congress, was held at Fairbanks, July 3. The old board of directors was re-elected, as follows: Messrs. Burns, Collins, Conradt, Crites, Davis, Gross, Hancy, Hess, Hopkins, Howell, Johnson, Kinney, McQuarrie, Pearson and Thompson.

The board of directors held a meeting July 29 and elected the following officers: Governor, John A. Davis; vice-governors, August Conradt, G. A. McQuarrie and L. C. Hess; treasurer, Paul Hopkins; secretary, K. T. Sparks; executive committee, Paul Hopkins, J. C. Kinney and Ben Thompson.

The following directors were present:

Messrs. Davis, Gross, Conradt, Collins, McQuarrie, Kinney, Thompson, Hopkins and Hess.

—Reported by K. T. SPARKS, Secretary.

Industrial Notes

The Shourds-Stoner Company, Inc., architects and engineers, announce the opening of an additional office at 825 Harris Trust Bldg., Chicago, Ill. This office is in conjunction with their present one at Terre Haute, Ind., and was required through the large and growing business of this company throughout the central States, of which Chicago is the natural metropolis. A complete department handling all phases of engineering work as pertains to the coal industry is maintained by this company. In addition to its civil, mechanical, electrical and architectural engineering departments is a department specializing in appraisals and valuations. They have recently secured several contracts of magnitude in this line. They would be pleased to have all their old friends and clients call on them at their new office.

PERSONALS

J. H. Holmes, Jr., of Boulder, Col., who has been spending several weeks in New York and Washington, has returned to Colorado.

Judge E. E. Sapp, after a short trip to Washington and Eastern points, has returned to his home at Galena, Kan.

Ravenal Macbeth, secretary of the Idaho Mining Association, is again in Washington, where he will remain at the Arlington Hotel indefinitely.

J. F. Callbreath, secretary of The American Mining Congress, has returned to Washington after attending the Lake Superior meeting of the American Institute of Mining and Metallurgical Engineers.

Col. Warren R. Roberts, chairman of the coal section of the Standardization Committee of The American Mining Congress, left Chicago on September 4 for a trip to Western Canada, where he will remain for several weeks. Colonel Roberts is president of Roberts & Schaefer Co., Chicago, Ill.

Wade Kurtz has returned to his home at Kansas City after a trip to Washington on tax matters.

H. N. Lawrie, economist of The American Mining Congress, is again at Washington headquarters after an extended trip through the gold camps of the country.

Dr. Henry Mace Payne, formerly assistant to the president of the Bertha Coal Co., has resigned that position to take the management of the Douglas-Barnes Corporation at 53d street and Fifth avenue, New York city.

THE MINING CONGRESS JOURNAL

Official Publication of the American Mining Congress

CONTRACT OBLIGATIONS

Collective bargaining and the closed shop are two principles to enforce the adoption of which millions in wages have been lost, millions in property destroyed and hundreds of lives sacrificed. These principles have been opposed by employers for two substantial and impelling reasons. Collective bargaining, where the transaction embodies the real essentials of a bargain, namely, the meeting of minds in agreement, has not and would not receive any substantial opposition from employers. But collective bargaining as understood by organized labor is that contract which is entered into by the employer under the threat that unless he does so contract, organized labor will not only refuse to work, but will obstruct the operation of his plant with unorganized labor. Collective bargaining, therefore, becomes collective extortion, and as such does not meet the approval of employers and will and necessarily must always meet with their opposition.

The closed shop is objected to by employers not because of any objection to properly organized labor nor any opposition to a perfect co-operation for proper purposes among their employees, but because it takes from the employer the right to direct his operations, to discharge incompetent men and to replace them with men who are competent and willing to perform the service required. When these objections have been surrendered by employers they are met with still another difficulty, namely, that organized labor does not keep its contracts; that all collective bargains made with organized labor are con-

tracts which bind one side only, and the workmen feel at liberty to violate these contracts, and do so without hesitation whenever in their belief such strikes will bring advantage to them.

A peculiar illustration of the above is found in the Kanawha field of West Virginia, where on September 10 the Alma-Thacker Coal Co., in the Williamson field, signed up with the union Kanawha scale of wages. The non-union mines in the Williamson field announced their new wage scale on the 15th. On the 20th the miners at Alma-Thacker struck because their union wage was not as high as the non-union wage of the surrounding mines. This is amusing evidence of the truth of the above statements and presents a condition which is absolutely indefensible. Labor may or may not be a commodity, but a contract for service is a contract, and he who violates a contract is unworthy of public confidence.

LESSON OF THE WALL STREET HORROR

Those of us who have been reading the sensational press during the last year, and with particular reference to the proposal for liberating all so-called political prisoners, have wondered with honest curiosity what attitude would be assumed toward the thirty-seven murders in Wall Street. No other name can be given to the bomb outrage. Thirty-seven people were assassinated.

It is a reasonably safe assumption that no man would commit suicide were it not for a distorted vision of himself attending his own funeral. Similarly,

great political crimes of violence are founded on the hope of the perpetrators that they will become public idols. The bitterest moment to Booth, after his assassination of Lincoln, was when he lay in the woods along the Maryland shore of the Potomac and read the absolute unanimity with which the newspapers of the country abhorred his act. The assassin of McKinley was a Russian radical who would today be called a "Red," and who thought he was liberating America from the domination of a group commonly known as the trusts and who were always pictured as sitting on piles of money, holding McKinley on their knees, with dollar marks all over their waistcoats. It is easy for newspapers to so appeal to popular prejudice—to draw a picture of a corrupt person, labeled "The Trust," squeezing the throat of a pigny, labeled "The Common People," which it has turned upside down and whose pockets hang empty.

These thirty-seven murders are the natural result of such sentiments as have been expressed by the sensational press in defining its attitude toward so-called radicalism. Their slogan has been "You cannot kill an idea." Possibly not, but an idea may become so violent that it commits suicide.

FREIGHT RATE JUSTICE.

In effect a blanket percentage increase in freight rates works many injustices. These injustices are admitted by the Interstate Commerce Commission, which is proceeding, however, on the theory that it is treating an immense problem which needs a speedy remedy, and that the flat percentage increase is the only remedy possible. The Commission, therefore, has not taken up the detailed problems of any smaller industrial units.

One of the greatest of these is the injustice borne by producers of raw materials, particularly the coal and iron ores. The additional freight rate which the iron-ore industry must bear as com-

pared to the money value of its output is greatly out of proportion with the increased freight burden which is borne by more advanced stages of manufacture.

For example, a Western iron-ore property which produces a grade of ore worth \$2.10 per ton at the mine, and whose freight rate to furnaces was \$2.67 prior to the 25 per cent. war-time increase, now has a freight rate of \$4.50, more than twice the value of its ore at the mine.

The economic injustice resulting from the present ruling is that the increased burden borne by the raw-material industries is disproportionate to that borne by the advanced stages of fabrication. This inequality, which is most apparent and which has not yet been stressed before the Interstate Commerce Commission, is between industries of different types. To the fabricator of materials in advanced stages of manufacture the effect of increased rates is very slight. To the producer of raw materials, whose sole problem is one of transportation of raw materials to a profitable market, the problem of transportation is vastly important.

SILK SHIRTS AND IDLENESS

A great deal of editorial ink has been wasted in bemoaning the extravagance of the workingman during his so-called silk-shirt era. The false idea has been put forth, possibly unintentionally, that there is something intrinsically wrong in a workingman buying a silk shirt or in his wife buying silk stockings. There is nothing wrong in either.

A similar amount of ink has been wasted in the self-righteous statement that it is the duty of the laboring man to labor, and that when he stays away from his job or loafa a certain number of days a week that he is falling down on his duty to civilization. The amount of labor a man wants to do is the laboring man's own business. If a working man spends one or two days' pay in the purchase of silk shirts which he wears over Sunday and then wears into the

mine Monday morning, it is entirely his own business that he do so. But he should not then come before a labor arbitration board and, because he has expended his money for valueless clothing, say that his wage is not sufficient to pay his living expenses and make his extravagance a basis for asking for higher wages in order to meet living conditions; and similarly, if after he has earned \$22 a day for a number of days he wants to lay off for three or four days, he should not advance voluntary idleness in what he is pleased to term his "vacation" as a basis for higher per diem rate so that his yearly average may be sufficient to meet his needs, asking the consuming public in each case to foot the bill.

SLIDING RAILROAD REVENUES

Every mining operator has the feeling that the basic necessity in the transportation situation is a renewal of service at all costs. At the same time the basic increase in freight rates on a percentage plan which raises freight rates out of all proportion to the cost and selling price of mined products, whether they be ore or coal, carries with it certain elements of permanency which he regards as dangerous. There is, too, the suspicion that possibly the new railroad rates have been, like the wind, tempered to the shorn lamb, in that they are designed to make even the poorest of the roads pay its 6 per cent. return.

A similar situation has developed in at least one American city with regard to the city street-car traction lines. In Washington, D. C., which has two traction lines, one traction company admittedly made money on a five-cent fare. The opposition line, however, could not make money at this price, and the fares on both lines were raised to eight cents. This gives to the better managed, more efficiently conducted property an excess of profit which it neither asked for nor needed, simply for the purpose of giving a living profit to the company

which was serving the public less efficiently. It is entirely possible that the blanket increase in freight rates will work the same situation. It may at the same time have another effect which the traction companies have noticed, namely, that the increase in rates does not result in an increase in gross revenue. A certain amount of diminution in business always results from increased rates, and when the rates increase on certain commodities whose limits of price are fixed, these commodities will not be shipped. We may almost venture it as a safe prediction that with the restrictions in shipments, coupled with deflation in business, the railroads' revenue for 1920 will not be greatly in excess of their revenue for 1919.

TRUCKS VERSUS RAILROADS

The recent advance in railroad freight rates is developing a type of competition which only a generally increasing and over-capacity business will prevent from being severely dangerous to railroad earnings. Motor transportation on the public highways, both passenger and freight, is being developed in such a way as to cause apprehension on the part of railroad companies, and in many instances to enlist very active opposition. This is manifest in the efforts which are being made to prevent the use of the roadways for motor-truck transportation except upon payment of such charge for the use of the roadways as will prevent motor transportation from remaining a competitive factor. It is urged that the upkeep of the public highways is borne by general taxation, while railroad companies are not only forced to maintain their own rails, but also to assist in the maintenance of the highways through taxation.

A tire company in Akron, Ohio, for many months during the war and continuously to the present time has transported its product from its factory to Boston, Mass., by motor truck because its deliveries are more quickly made

and the cost practically the same. There can be no question but that the haulage of freight over steel rails upon steel wheels and with ordinary train crews should be made at a much lower cost than would be possible over asphalt roads and upon rubber tires with the required man-power many times multiplied. Where a long haul can be made more quickly by motor truck than by rail there is something radically wrong with the railroad service. Where a short haul can be made more cheaply by motor than by railroad there is something absolutely wrong with the railroad freight rates.

THE MINING CONGRESS JOURNAL, while recognizing the present requirements for increased earnings by the railroads, believed that the downward trend of prices should begin with that fundamental basic part of living costs—transportation. It believed that the railroads, being then under Government control, might better have been aided by the Government to the extent that was necessary to recoup themselves from the demoralization of Government control and the bad effect of a too low freight rate which had been forced upon them by the Interstate Commerce Commission in the pre-war period.

When in the pre-war days a freight-rate increase of 5 per cent. was granted by the Interstate Commerce Commission after a long contest, THE MINING CONGRESS JOURNAL believed that a larger advance than the 5 per cent. was then necessary and should have been granted. This 5 per cent. was followed by a 15 per cent. advance, and then a 25 per cent. advance, and later still by a 25 to 35 per cent. advance, making the present freight rate double what it was prior to 1914. This is too great an increase, and if allowed to stand permanently will make necessary a price level which the gold reserves of this country will not be able to support. THE MINING CONGRESS JOURNAL will always urge a fair, adequate and profit producing freight rate to railroads efficiently and economically managed. It will never fav-

or a rate which creates an earning which becomes a constant temptation to the railroad gambler upon the one side or the employes' unions upon the other. Railroad earnings and railroad wages should maintain a relation approximately similar to the ratio existing in 1914, and every increase in wages and in transportation rates above that level must and necessarily will measure the extent of the inflation of business. It is plain that the gold standard cannot be maintained with the business of the world done upon the present high-price levels. The trend toward a lower price level is well under way, but it should have been begun by maintenance of normal freight rates and normal charges for the service of public utilities. From the standpoint of the consumer, these deficits might better have been met by direct taxation than by an increased burden upon traffic, which will reflect itself in semi-prohibitive prices to consumers, a natural decrease in freight traffic and an open bid for the competition of motor trucks in freight transportation.

THE GROWTH OF THE PUBLIC CONSCIENCE

As the public conscience becomes more sensitive certain business or industrial principles once accepted are being discarded.

Business procedure which a generation ago at the worst was regarded as sharp business practice is punishable today by justifiable heavy fines, and even prison sentences. This is not because business men have grown worse, but because the world has grown better and the public conscience has become quickened.

A similar interesting situation is arising with regard to the attitude of the consuming public in relation to the demands of labor, particularly as applied to the production of the necessities of life. This is evincing itself in the widespread demand for the open shop.

Five years ago the concern that stood

out for the open shop faced severe criticism. The right of labor to collective bargaining under all circumstances was scarcely to be denied, even by any noncombatant private citizen. Today, because labor has repeatedly refused to adhere to the bargains it has made in its collective capacity, the consuming public is weary of paying the bills caused by the irresponsibility of labor to keep its agreements, and is clamoring for the open shop. This, again is due to a quickening of the public conscience.

COMPETITION FOR THE RAILROADS.

Under the above caption the *Wall Street Journal* comments upon the problem for the railroads presented by the motor truck as a competitor in the transportation of freight, and quotes the *Railway Age* in saying that truck lines have taken to themselves a substantial traffic between New York and points up the river as far as Albany in competition not only with the railroads, but with boat lines on a water route of ample breadth and depth. The *Wall Street Journal* adds:

"The truth is that the country is bestowing upon competitors of the railroads an immense annual subsidy which, in the case of motor trucks, at least, is a highly proper item of a budget because of the millions of passenger cars in use. No one proposes to do anything like it for the railroads, or even to exempt them from taxation in proportion to expenditure of public revenues in building up their rivals. It is a distorted fiscal practice, and the sooner it is corrected, as it must be some way, the better it will be for the public morality and the business of sound government."

The *Wall Street Journal* seems to have lost sight of the fact that the public highways are maintained by the people who use them either by direct taxation or by license fees paid by the users of automobiles and trucks, and that these same highways were maintained at public expense long before railroads were dreamed of. When motor-truck freight transportation over any considerable distance is at all pos-

sible in competition with railroad transportation it is proof that the railway service is so clumsily handled as to need such competition in order that it shall be made to more efficiently meet the public requirements. There was a time when the farmer carried his grain in a sack over his shoulder miles across the country to have it ground into flour upon the best highway available. Later the ox-cart, then the mule team, and later still the motor truck were the means through which a marvelous advance in civilization was accomplished. All of these have used the public highways, and the railroad as such can command business only to the extent that its service is vastly cheaper than that which can be otherwise furnished. Motor-truck transportation for short hauls and for city delivery has a distinct advantage over railroad transportation between the same points. That such competition shall interfere with railroad traffic for any great distances is a libel upon railroad management.

FINANCIAL REVIEW OF THE MONTH.

might normally have occurred. The

Two factors contributed to carrying the buoyancy of the rebound from August lows further into September than first was the necessary support of the market by the banking interest during the flotation of the new French loan. This was a large enough financial effort to justify consistent continuous support over a period of time subsequent to the issuance of the loan. The second factor was the necessary support of the market following the explosion and catastrophe of September 16. A lively market in railroad shares also served to keep up sufficient transactions in the industrials to keep the September levels well above those of August. The announcements of the cut in price by the Ford Motor Co. was followed by the same development on a downward scale in steels, and possibly coppers, as in the similar announcement by the Wana-

makers six months ago of the cut in price of commodities, which was followed by a depression in prices of all commodity stocks. A difficult thing in the present market is to forget the high prices of a year ago and to realize that we are doing both bull and bear trading in the present market simply on a lower range of prices than was in effect a year ago. U. S. Steel at 90 is thought of as being cheap in comparison with 119, but it is not cheap in comparison with 83⁷/₈, which it touched during August.

There has been a heavy curtailment in the whole tire industry for the past six to nine months. Many of these companies are writing off huge losses in inventories, with crude rubber selling at 25 cents a pound and tire fabric coming down in price in conjunction with the lowering cotton prices generally. General Motors made a new record low of 185⁵/₈. Another thing which points to a continued low market for some time is the consistently lower prices on Monday than on the Saturday preceding. It has been possible for six months to sell stocks on Saturday and buy them back on Monday at a profit. This is due primarily to the fact that most news is of a hopeful, constructive nature, and news of this nature builds up its influence slowly, so that from the beginning of the week until the end there is a steadily rising feeling of confidence. This has been heretofore knocked off over Sunday by unfavorable bank statements. That this is not the only factor in lowering Monday's prices is shown by the fact that the bank statements over the week end of September 26 were decidedly favorable.

While money rates have eased off so that call funds have on two isolated occasions been available at 6 per cent., and the prevailing rate has not been above 8, it is now admitted that the credit situation, while serving to restrict any unrestrained price advances, has not been sufficient to account for the recent loss in price. The full force of the selling wave which came over the market following the announcement of

the Ford prices did not take place until three or four days after the announcement. This was similar to the situation last spring when the Wanamakers price reduction was announced at the height of the spring rally. Certain motor stocks have already gone below the lows established in August, and it would not be surprising to see a general lower average, lower than any yet made this year, before there is any substantial rise in the market.

The cuts in steel prices which will have to follow will fall largely on the independent companies, the United States Steel Corporation having maintained the Government schedule of prices since the release of control by the War Industries Board. Despite these prospective cuts in price, however, Bethlehem Steel Co.'s new \$20,000,000 issue for financing the construction of boats for Chilean ore trade was oversubscribed. The steel companies point out, however, the interesting fact that the motor industry consumes only 7 per cent. of their product, and that since August two-thirds or more of the steel accumulated at the mills during the preceding four months of the bad transportation situation has been moved, in addition to a current output several per cent. greater than the output during those four months.

The oil stocks have moved in opposition to the remainder of the market and are making new highs, Mexican Petroleum having touched 197. This is possibly due to the knowledge that the one component of the motor industry which is necessary and of which the supply must go on in undiminished amount is the supply of fuel.

The copper companies in issuing an official price of 18³/₄ cents are merely making public and official a price which has been ruling in the trade for some time in purchases of metal from first hands.

More price cutting in other lines is expected. Commodity markets are having record-breaking slumps in price.

cotton, sugar, wheat and corn leading the way. This again illustrates the fact that we are simply trading at lower levels and that there is no basis of comparison between stock market prices of this year and a year ago.

It is apparent that easier money conditions, with certain prospects of satisfactory election outcomes in November, and bumper crops all combined, are not sufficient to sustain a bull market at the prices which were sustained last year. We are not having a bear market, however, but are having a bull market on lower levels.

One of the most important financial developments of the month was Secretary Lane's formal statement issued under the authority of a Baltimore bank, in which he states that the conditions of the country are slowly returning to normal. The Federal Reserve Board in its bulletin for September corroborates this in the statement that conditions in public and private finance are beginning to give unmistakable evidence of a return to normal conditions. We must remember that the return to normal is not a return to war-time prices; it is not a return to war-time prosperity or war-time opportunities for profit either in industry or in the stock market, and that when we have arrived at a state of normalcy it will be a satisfactory one, but the road will be long and arduous.

JAPANESE TARIFF REVISION

According to a cable from the American Embassy at Tokyo, a revised tariff law went into effect in Japan on August 29. The following articles were placed on the free list on that date: Explosives, machinery and essential supplies for mining coal and gold; machinery for use in iron and steel plants with an annual capacity exceeding 35,000 tons, and seeds. Goods stored in bonded warehouses before August 29 will be subject to the old rates of duty. Mineral oil with a specific gravity not exceeding 0.875 is to be dutiable at 0.19 yen per 10 gallons, instead of 0.36 yen.

POTASH AND THE FARMERS

The desperate plea made by the farmers the first of the year for nitrate of soda, and which resulted in the passage of a bill permitting the sale of 100,000 tons of the War Department's reserve, seems to have been unnecessary, since less than seventy-five tons of this material were taken between April 24 and the present time. During a portion of that period the market price was higher than the price asked by the War Department, and during practically the entire period the nitrate could have been obtained at as low a price from the Government as could be obtained elsewhere. The statute expired by limitation on September 30.

CONVENTION ORGANIZATION.

By authorization of the directors, organization and voting representation in the twenty-third annual convention of the American Mining Congress will be upon the following basis:

The President of the United States, the Secretaries of the Interior, Treasury, War, Labor and Commerce and the Governors of States—or their personal representatives.

The Members of the United States Senate.

The Members of the United States House of Representatives.

The Directors and Officials designated by Directors of The United States Bureau of Mines; The United States Geological Survey; The United States Bureau of Standards.

State Directors and Inspectors of Mines and State Geological Mining Officials not otherwise designated.

Officers and Members of State Bureaus or Boards in authority on mining matters.

Officers and Members of Faculties or Boards of Trustees of Schools of Mines, Metallurgy, Geology and Engineering.

Officers and Members of National, State or local organizations devoting all or a part of their energies to the mining industries (this includes metaliferous, coal, petroleum, chemical or engineering societies).

Members of The American Mining Congress, mining or oil men, mining engineers, petroleum engineers, geologists or persons financially interested in mining or oil projects who, having no other form of credentials, enroll for membership in The American Mining Congress.

OFFICIAL CALL IS ISSUED FOR MINING CONGRESS CONVENTION

The official call for the twenty-third annual convention of the American Mining Congress and affiliated bodies, to be held in Denver, Col., November 15-19, has been issued by President Bulkeley Wells, Secretary J. F. Callbreath and Thomas B. Stearns, chairman of the General Committee on Arrangements.

The convention will be a gathering of business men and women whose deliberations will be confined to the business of producing minerals, upon which America's wealth is based. Heretofore calls for American Mining Congress conventions have been general in character. The officers and directors, realizing, as stated in the official call, that "the present condition of the mining industry and the peculiar problems now facing all industrial undertakings in the United States create a psychological reason for calling together the mining men of America for an open, frank and unhampered discussion of these problems and conditions, State and national," have addressed the call particularly to the members of Congress, the members of all mining organizations and producers of metals, coal, petroleum and all other mineral and chemical substances.

In addition to the actual membership meeting of the American Mining Congress, there will be held 11 conferences, each of which will be the most important gathering of the year for those interested in its particular subject. The program is in the hands of a committee of 15 representative mining operators and engineers, which committee, it is believed, will present the most interesting outline of business discussions ever presented at any convention of this nature in the United States.

The convention will be held at the Albany Hotel. Headquarters were opened in the hotel early in August, and are in charge of John T. Burns, assistant secretary, who will direct all pre-convention activities. All communications relating to either the convention or the exposition should be sent to Mr. Burns at this address.

Denver being a tourist and convention city of magnitude, those contemplating attending the convention may feel assured of adequate hotel accommodations. The city is well equipped in this respect. An agreement entered into between the hotels and the Denver Civic and Commercial Association protects delegates from overcharges. Specific hotel and railroad information may be secured by writing to convention headquarters.

The Conferences

Nine general divisions of work will be taken up by the convention, as follows:

Industrial: Present-day relations between operator and employe; improvement of effi-

ciency; wages; hours; working conditions; contracts.

Legislation: Tariff pertaining to the products of the mines; uniformity of national and State mining laws; revision of the general mining code; State and national "blue sky" laws; employers' liability laws.

Standardization: There will be a national conference on the standardization of mining machinery, equipment, labor and life-saving devices, safety codes, Government and State co-operative methods, marketing and accounting.

Taxation: The existing excess profits tax law having proven unworkable, unfair and destructive to business, the American Mining Congress is conducting efforts looking to the presentation to the next session of the United States Congress of a revision of the present cumbersome statutes. A committee representing all industries is now at work on this matter and its report will be given consideration. This conference will also discuss State tax laws, which are now confusing and burdensome. An interstate committee on uniformity of tax laws is suggested.

The Gold Problem: There is called a con-

terence of gold producers and financiers to complete the organization of a movement to prevent the further depletion of the nation's monetary gold reserve. There will be a report of the activities thus far carried out by the American Mining Congress in behalf of the McFadden Bill.

War Minerals: This conference will consider the work of the War Minerals Relief Commission, which will end its duties December 1, 1920, and will discuss and decide upon some concrete plan for the relief of worthy claimants who, under the technicalities of the existing law, have been refused relief. A program for the further development and protection of war minerals will be discussed and adopted.

Petroleum: The peculiar problems now facing the petroleum industry and the further development of oil through development of the oil shale deposits of the nation will be fully discussed. The American Mining Congress has in its membership a large number of the leading oil producers of the United States, and is inviting all petroleum associations to participate in this conference for the purpose of adopting a concrete national program in behalf of the petroleum industry, further legitimate promotion, encouragement

of public confidence, the administration of the leasing law, etc.

Conference of Coal Operators: Many problems of vital importance to the coal mining industry will be discussed in one or more sessions of the conference to be called by the coal mining operators holding membership in the American Mining Congress. Such subjects as have been developed by recent events in both anthracite and bituminous fields as affecting production, including labor conditions, legislation, etc., will be handled by competent speakers. The National Coal Association and the various State organizations of coal operators have been invited to participate.

Flotation Conference: There will be a conference of the users of oil flotation processes for the purpose of discussing both the commercial and legal phases of the present development in this important method of ore treatment. A report will be made covering the activities of the American Mining Congress and the Federal Trade Commission in the inquiry now being made as to the contests between Minerals Separation, Ltd., and users of flotation.

Schools of Mines and Metallurgy: This will be the first national conference called by

FROM THE PEOPLE OF COLORADO

In behalf of the People of Colorado, I take pleasure in extending to the mining men of the United States a most cordial invitation to accept of Colorado's hospitality on the occasion of the Twenty-third Annual Session of the American Mining Congress.

Although Colorado has given the world liberally of her precious and commercial metals and minerals, her hills are still vast storehouses of wealth and opportunity still lies here for the miner and capitalist.

The greatest gold camp in the world still lies in the very shadow of Pikes Peak; silver camps dot our hills and canons; vast storehouses of coal, reservoirs of oil and limitless stretches of oil-bearing shale lie dormant.

These facts lend interest to a National Convention of mining and oil men—the interest being mutual, between ourselves and our visitors.

November in Colorado usually is a delightful month, when the lure of out of doors is strong and I feel certain that those who come to participate in the serious conferences of the Mining Congress will be well repaid by the hospitality of both our people and our climate.

*Signed: OLIVER H. SHOUP,
Governor of Colorado.*

the organization committee authorized by the preliminary conference held in St. Louis last year, and to this conference will be invited all officers and faculty members of schools and colleges devoted to mining, metallurgy, engineering, etc., together with Government and State officials associated with this industry.

International Conference on Mexican Relations: The peculiarly distressing conditions which have made it impossible for the Government of Mexico to fully protect Americans and American mining and oil interests during the past few years, the continuance of this uncertainty and the recent adoption of a constitution for Mexico, which contains certain clauses restrictive and destructive as affecting American investments and rights, creates the necessity for a dispassionate, frank and businesslike discussion between American investors and Mexican business and political leaders. There is, therefore, being arranged an international conference of this character which, it is hoped, will result in the re-establishment of political and commercial amity between the two peoples and the adoption of a constructive program to be presented to the Governments of the United States and Mexico.

Annual Members' Meeting: The annual members' meeting for the transaction of such business as properly comes before an exclusive meeting of the members of the American Mining Congress for the election of officers, for the designation of the next annual con-

vention, etc., will occur at the Albany Hotel, Denver, Colo., Thursday, November 18, at an hour to be designated later.

All members of the American Mining Congress are asked to constitute themselves an active committee on organization. Our problems are vital and this convention should be the most effective in the history of our organization. It is up to you to sacrifice, if need be, in order that organized disruptionists and organized radicals may be met by a completely organized industry back of a concrete operative plan in which you will have a definite and active part.

The Exposition.

The exposition held in connection with the twenty-second annual convention in St. Louis last year was a successful experiment. It was planned that such an exposition should be continued at the annual conventions. Inability successfully to house a large exposition of this character in Denver this year, makes it necessary to adopt a plan for giving a strictly educational and scientific exhibit which will be under a special committee working with the permanent American Mining Congress committee on standardization. This exhibit will occupy the first floor of the Albany Hotel, and special housing arrangements have been made for the street and adjacent property.

By order of the Secretary of the Interior, Hon. John Barton Payne, the United States Geological Survey and the United States Bureau of Mines will co-operate fully in the matter of exhibits and participation in the convention and exposition. The State of Colorado and a number of Western States have tentatively promised their co-operation.

FROM THE CITY OF DENVER

*Denver, Colorado,
September 15, 1920.*

Denver, Queen City of the Plains, a great mining center, a commercial mart, the railroad gateway between the East and the West, is builded upon gold. Into her banks flow the wealth of hundreds of mining camps in the hills of Colorado, and out of the hearts of her people flows a wealth of fellowship and commercial power which we designate as "The Denver Spirit."

In this Denver spirit, and representing the men and women of the City, it is a pleasurable duty to extend a welcome to the mining men of America and to say we are proud to entertain the Twenty-third Annual Convention of the American Mining Congress and shall contribute our share to its success.

Signed: DEWEY C. BAILEY, Mayor.

STANDARDIZATION CONFERENCE

The work of the Committee on Standardization of Mining Equipment, as applied to both coal and metal mines, is progressing rapidly. Its progress is a source of great gratification to the American Mining Congress, the sponsor for the undertaking. During the short period which has elapsed since the committee was organized it has been able to do some real constructive work, and at the national convention to be held in Denver November 15 to 19, it will be able to offer some valuable suggestions for standards to be adopted by the industry.

This is particularly true of the coal branch of this committee, which had the advantage of several months' application before the organization of the metal branch. It was because of the successful work of the coal committee during 1919 that, at the St. Louis convention of the American Mining Congress, it was decided to extend the activities of the committee and incorporate the metal industry in its work. With this in mind, Charles A. Mitke, a nationally-known engineer, whose headquarters are at Bisbee, Ariz., undertook the chairmanship of the metal branch, and at the present time the personnel of the committee has been completed and its work well outlined and organized for rapid action during 1921.

On August 30 a meeting was held at the Engineers' Club in Chicago between representatives of the American Engineering Standards Committee, American Institute of Mining and Metallurgical Engineers, the United States Bureau of Mines, the National Safety Council and the American Mining Congress, at which conference ways and means for co-ordinating the work on standardization now being carried on by these various organizations were discussed at considerable length. After the discussion a resolution was adopted authorizing the American Engineering Standards Committee to form a subcommittee to co-ordinate the standardization of mining practice and equipment. This subcommittee is to be representative of the principal organizations now in the field working on standardization of mining practice and equipment, or which might be expected to engage in such work. It is anticipated that by the submis-

sion to the American Engineering Standards Committee of the reports of the general committee there will be avoidance of any duplication of effort, and that the standards adopted will have the hearty endorsement of all those interested in the question of standardization.

At the annual convention of the American Mining Congress to be held in Denver, November 15 to 19, there will be held a national standardization conference to which will be invited representatives of every large mining property, both coal and metal, all mining machinery and supply firms, representatives of the United States Government, etc. It is anticipated that there will be in attendance at this conference no less than 500 representatives of the factions interested.

At that time Chairman Roberts of the Coal Section will deliver a report as to the progress which has been made in the standardizing of coal-mining equipment, and will carry on a discussion with the representatives present as to the feasibility of the adoption of the recommendations made by his committee. Chairman Mitke of the Metals Committee will also render a report of what has been accomplished in the limited period since the organization of his committee, but will more generally outline the plans he has in mind for the development of the work of his committee during the coming year. There will also be discussion as to the best ways and means of carrying out the recommendations for the standardization of metal mining equipment.

The subcommittees on Mine Ventilation, Underground Power Transmission, Power Equipment, Underground Transportation, and Mining and Loading Equipment, under the coal branch of the committee, have made very substantial progress with the work allotted to them.

Underground Transportation.

This committee, composed of prominent representatives from coal operators, manufacturers, consulting engineers, etc., has held several sessions during the past few months, and as indicated by their several reports submitted to the Chairman of the General

Committee, have made very substantial progress in reaching conclusions and making recommendations on several important features of underground transportation, including mine track gauges, track clearances, track curvatures and kindred subjects.

Mining and Loading Equipment.

This committee is composed of 14 representatives. It has been somewhat slow in completing organization, but has finally gotten down to work, and its first report, submitted recently by the chairman, indicates that it is now ready for active participation in the program of standardization.

Mine Ventilation.

This subcommittee has five members selected from same sources as those mentioned above, and its reports indicate considerable progress on the many important features of mine ventilation.

Outside Coal-Handling Equipment.

This subcommittee is composed of seven representatives. The duties of the chairman of this subcommittee, as chairman of the general committee, have prevented him from giving the proper amount of time to directing the work of this subcommittee. However, the members of the subcommittee have many important questions under consideration and will submit their recommendations in writing to the chairman at an early date, after which time the committee will have a meeting and draw up a report to be presented by the general committee at the annual convention.

Underground Power Transmission.

This subcommittee is composed of five members besides the chairman, including representatives from the U. S. Bureau of Mines. It has had several sessions and has reached definite conclusions on important features of underground power transmission. It is expected to make a most interesting report to the annual convention.

Power Equipment.

There are 16 members of this committee from very representative companies, and the committee has been very active since the time

of its organization. Chairman Pauly deserves a great deal of credit for the enthusiasm he has aroused in the members of his committee, and for the good work already done.

COAL DIVISION—COMMITTEE ON STANDARDIZATION

General Committee.

Colonel Warren R. Roberts, Chicago, Ill., Chairman; Geo. R. Wood, Consulting Engineer, Charleston, W. Va.; C. E. Watts, Efficiency Engineer, Berwind-White Coal Mining Co., Windber, Pa.; A. B. Kiser, Electrical Engineer, Pittsburgh Coal Co., Pittsburgh, Pa.; W. J. Montgomery, Manager Ventilating Department, Jeffrey Manufacturing Co., Columbus, O.; K. A. Pauly, Power and Mining Engineering Department General Electric Co., Schenectady, N. Y.; Carl Scholz, General Manager Raleigh-Wyoming Coal Co., Charleston, W. Va.

Chairmen—Subcommittees.

Carl Scholz, Mining and Loading Equipment; C. E. Watts, Underground Transportation; A. B. Kiser, Underground Power Transmission; Geo. R. Wood, Drainage; W. J. Montgomery, Ventilation; Col. W. R. Roberts, Outside Coal-Handling Equipment; K. A. Pauly, Power Equipment.

Underground Transportation.

C. E. Watts, Chairman; Charles M. Means, Consulting Engineer, Pittsburgh, Pa.; Graham Bright, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.; Joseph Bryan, General Electric Co., Pittsburgh, Pa.; F. A. Cosco, Jeffrey Manufacturing Co., Columbus, O.; D. F. Lepley, General Manager Connellsville Manufacturing & Supply Co., Connellsville, Pa.; C. W. Larson, Engineer, Mining Department, General Electric Co., Erie, Pa.; E. A. Waters, General Manager Hlicks Coal Interests of Western Pennsylvania, Kiskiminetas Junction, Pa.; J. Milliken, President Industrial Car Manufacturers Institute, Pittsburgh, Pa.; T. A. Parker, Lincoln Steel & Forge Co., St. Louis, Mo.; A. H. Ehle, General Sales Manager Baldwin Locomotive Works, Philadelphia, Pa.; H. K. Porter, Sales Manager, Mine Car Department, Hyatt Roller Bearing Co., Sixth Ave. and 41st St., New York City.

Mining and Loading Equipment.

Carl Scholz, Chairman; D. J. Carroll, Chicago, Wilmington & Franklin Coal Co., Benton, Ill.; E. N. Zern, Mining Engineer and Editor *Mining Catalog*, Pittsburgh, Pa.; C. A. Cabell, Vice-President Carbon Coal Co., Kanawha National Bank Building, Charleston, W. Va.; N. D. Levin, Jeffrey Manufac-

turing Co., Columbus, O.; J. M. Clark, Clark & Krebs, Charleston, W. Va.; M. Mitchell, Sullivan Machine Co., St. Louis, Mo.; William Whaley, Myers-Whaley Company, Knoxville, Tenn.; Wm. O. Duntley, Duntley-Dayton Company, Chicago, Ill.; E. S. McKinley, 625 Denham Building, Denver, Col.; E. G. Hamilton, 310 Schultz Building, Columbus, O.; Walter Stevens, Valier Coal Co., Valier, Ill.; S. W. Farnham, Mining Engineer, Goodman Manufacturing Co., Chicago, Ill.; E. K. Bowers, Morgan Gardner Electric Co., 68 E. Adams St., Chicago, Ill.

Drainage.

George R. Wood, Chairman; M. C. Benedict, Berwind-White Coal Mining Co., Windber, Pa.; Walter D. Stockley, Fairmont Mining Machinery Co., Fairmont, W. Va.; E. D. Knight, Cabin Creek Consolidated Coal Co., Kayford, W. Va.; E. F. Austin, Manager Mine Pump Department, Dravo-Boyle Company, Pittsburgh, Pa.

Ventilation.

W. J. Montgomery, Chairman; E. N. Zern, Mining Engineer and Editor *Mining Catalog*, Pittsburgh, Pa.; J. R. Robinson, President Robinson Ventilating Co., Pittsburgh, Pa.; G. E. Lyman, General Superintendent Madison Coal Corporation, Glen Carbon, Ill.; A. S. Richardson, Ventilating Engineer Anaconda Copper Mining Co., Butte, Mont.; W. A. Rowe, Chief Engineer American Blower Co., Detroit, Mich.

Outside Coal-Handling Equipment.

Col. Warren R. Roberts, Chairman; G. F. Osler, G. S. Carnegie Coal Co., Pittsburgh, Pa.; W. A. Bishop, G. S. Pocahontas Consolidated Collieries, Pocahontas, Va.; F. W. Whiteside, Chief Engineer Victor American Fuel Co., Denver, Col.; James Needham, General Manager St. Paul Coal Co., Chicago, Ill.; F. G. Morris, G. S. Coal Mines, Republic Iron & Steel Co., Sayreton, Ala.; A. J. Sayres, C. E. Link Belt Co., Chicago, Ill.; W. J. Patterson, President Heyl & Patterson Co., Pittsburgh, Pa.

Underground Power Transmission.

A. B. Kiser, Chairman; Harry M. Warren, Electrical Engineer D. L. & W. R. R., Scranton, Pa.; W. A. Chandler, Electrical Engineer H. C. Frick Coal Co., Scottsdale, Pa.; R. L. Kingsland, General Superintendent P. & M. Department, Consolidated Coal Co., Fairmont, W. Va.; Carl Lee, Electrical Engineer Peabody Coal Co., McCormick Building, Chicago, Ill.; L. C. Hsley, 4800 Forbes St., Pittsburgh, Pa. (Bureau of Mines).

Power Equipment.

K. A. Pauly, Chairman; D. C. McKeeham, Box 913, Union Pacific Coal Co., Rock Springs, Wyo.; G. S. Thompson, Colorado Fuel & Iron

Co., Pueblo, Col.; H. F. Randolph, Consulting Engineer, 2330 Oliver Building, Pittsburgh, Pa.; M. D. Kirk, Pittsburgh Terminal R. R. Coal Co., Wabash Building, Pittsburgh, Pa.; R. W. E. Moore, Westinghouse Electric & Manufacturing Co., E. Pittsburgh, Pa.; R. L. Kingsland, Consolidated Coal Co., Fairmont, W. Va.; W. C. Shunk, Stonega Coal & Coke Co., Big Stone Gap, Va.; J. T. Jennings, Philadelphia & Reading Coal & Iron Co., Pottsville, Pa.; W. C. Adams, with Allen & Garcia, Chicago, Ill.; O. P. Hood, Chief Mechanical Engineer, Bureau of Mines, Washington, D. C.; Graham Bright, Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.; A. J. Nicht, Allis-Chalmers Company, Milwaukee, Wis.; Stephen H. Green, Pacific Coast Coal Co., Seattle, Wash.; Charles LeGrand, Phelps-Dodge Corporation, Douglas, Ariz.; Martin J. Lide, Consulting Engineer, Birmingham, Ala.; C. D. Woodward, Chief Electrical Engineer Anaconda Copper Mining Co., Butte, Mont.

Advisory Committee on Safety Codes.

S. W. Farnham, Goodman Manufacturing Co., Chicago, Ill., representing Mining and Loading Equipment; T. A. Parker, Lincoln Steel & Forge Co., St. Louis, Mo., representing Underground Transportation; Martin J. Lide, Consulting Engineer, Birmingham, Ala., representing Power Equipment; W. A. Rowe, American Blower Co., Detroit, Mich., representing Ventilation; A. B. Kiser, Pittsburgh Coal Co., Pittsburgh, Pa., representing Underground Power Transmission.

METAL DIVISION—COMMITTEE ON STANDARDIZATION

General Committee.

Charles A. Mitke, Bisbee, Ariz., Chairman; Norman B. Braly, General Manager North Butte Mining Co., 14 W. Granite St., Butte, Mont.; William Conibear, Inspector, Department of Safety, Cleveland-Cliffs Iron Co., Ishpeming, Mich.; Norman Carmichael, General Manager Arizona Copper Co., Clifton, Ariz.; Murray Morris Duncan, General Manager Cleveland-Cliffs Iron Co., Ishpeming, Mich.; H. C. Goodrich, 1408 Deseret Bank Building, Salt Lake City, Utah; William B. Daly, Assistant General Manager Anaconda Copper Mining Co., Butte, Mont.

Chairmen—Subcommittees.

Norman B. Braly, Drilling Machines and Drill Steel; William Conibear, Fire-Fighting Equipment; Norman Carmichael, Mine Timbers; Murray Morris Duncan, Underground Shoveling Machines; H. C. Goodrich, Steam Shovel Equipment; William B. Daly, Underground Transportation; Charles A. Mitke, Mine Ventilation (temporary).

Drilling Machines and Drill Steel.

Norman B. Braly, Chairman; Arthur Foote, North Star Mines, Grass Valley, Cal.; O. J. Eggleston, Manager U. S. Smelting, Refining & Mining Co., Kennett, Cal.; C. S. Elayer, General Foreman Arizona Commercial Mining Co., Globe, Ariz.; H. Seamon, Efficiency Engineer United Verde Copper Co., Jerome, Ariz.; George H. Gilman, 125 Prescott St., East Boston, Mass.; Arthur Notman, Superintendent Mine Department Phelps-Dodge Corporation, Copper Queen Branch, Bisbee, Ariz.; Arthur Crane, Explosive Expert Hercules Powder Co., San Francisco Cal.; L. C. Bayles, Chief Engineer Ingersoll-Rand Company, Phillipsburg, N. J.; Ochs Potter, Superintendent Superior Division, Calumet & Hecla Mining Co., Houghton, Mich.; R. T. Murrill Safety and Efficiency Engineer Inspiration Consolidated Copper Co., Inspiration, Ariz.; Roy Marks, Stope Engineer, Box 1676, United Verde Extension Mining Co., Jerome, Ariz.; Charles Lees, Superintendent Iron Cap Copper Co., Copper Hill, Ariz.; Earl Hastings, Foreman Clay Mine, Arizona Copper Co., Ltd., Morenci, Ariz.; W. G. Scott, Superintendent Coronada Mines, Arizona Copper Co., Ltd., Metcalf, Ariz.; J. A. Fulton, Idaho-Maryland Mines Co., Grass Valley, Cal.; Charles A. Smith, Mine Superintendent Ray Consolidated Copper Co., Ray, Ariz.; Frank Ayer, Mine Superintendent Moctezuma Copper Co., Pilares De Nacozari, Son., Mex.; Thomas C. Baker, Assistant General Manager The Mexican Corporation, Edificio "La Mutua," Mexico City, Mex.

Fire-Fighting Equipment.

William Conibera, Chairman; Guy J. Johnson, Safety Engineer Homestake Mining Co., Lead, S. D.; A. A. Kroghdahl, Safety Engineer Oliver Iron Mining Co., Virginia, Minn.; J. T. Young, Safety Inspector Arizona Copper Co., Morenci, Ariz.; H. J. Rabilly, Superintendent Mine, Fire and Hydraulic Filling Department, Anaconda Copper Mining Co., Butte, Mont.; Orr Woodburn, Safety First Director Globe-Miami District, Globe, Arizona.

Mine Timbers.

Norman Carmichael, Chairman; Lucian Eaton, Superintendent Cleveland-Cliffs Iron Co., Ishpeming, Mich.; G. W. Nicholson, General Superintendent United Verde Extension Mining Co., Jerome, Ariz.; W. S. Boyd, Manager Ray Consolidated Copper Co., Ray, Ariz.; W. G. McBride, General Manager Old Dominion Company, Globe, Ariz.; Ira B. Joralemon, Assistant General Manager Calumet & Arizona Mining Co., Warren, Ariz.; Felix McDonald, Mines Superintendent Inspiration Consolidated Copper Co., Inspiration, Ariz.; T. Evans, General Superintendent Cananea Consolidated Copper Co., Cananea, Sonora, Mex.; John Kiddie, Division Superintendent Arizona Copper Co., Morenci, Ariz.

Underground Shoveling Machines.

Murray Morris Duncan, Chairman; R. W. MacFarlane, Mining Department, Longfellow Division, Arizona Copper Co., Morenci, Ariz.; William Whaley, General Manager Myers-Whaley Company, Knoxville, Tenn.; H. De Witt Smith, Superintendent of Mines United Verde Copper Co., Jerome, Ariz.; Albin F. Victor, Manager of Sales Lake Superior Loader Co., Duluth, Minn.; J. H. Hensley, Mine Superintendent Miami Copper Co., Miami, Ariz.; H. E. Billington, Manager of Sales The Thew Shovel Co., Lorain, Ohio.

Steam-Shovel Equipment.

H. C. Goodrich, Chairman; Robert E. Tally, General Superintendent, United Verde Copper Co., Clarkdale, Ariz.; H. G. S. Anderson, Mining and Metallurgical Engineer, Hurley, N. Mex.; C. B. Lakenan, Nevada Consolidated Copper Co., McGill, Nev.; G. W. Barnhart, Manager, San Francisco Branch of Marion Steam Shovel Co., 741 Monadnock Building, San Francisco, Cal.

Underground Transportation.

William B. Daly, Chairman; George H. Booth, Mechanical Engineer, Inspiration Consolidated Copper Co., Inspiration, Ariz.; R. R. Boyd, Assistant Superintendent, Mine Department, Copper Queen Branch, Phelps-Dodge Corporation, Bisbee, Ariz.; T. K. Scott, Chief Engineer, Box No. 100, Miami Copper Co., Miami, Ariz.; Andover Syverson, Chief Engineer, United Verde Extension Mining Co., Jerome, Ariz.; E. M. Norris, Assistant Superintendent of Mines, Anaconda Copper Mining Co., Butte, Mont.; H. T. Hamilton, Manager Moctezuma Copper Co., Nacozari, Sonora, Mex.; R. E. Howe, Assistant General Manager, Cananea Consolidated Copper Co., Cananea, Sonora, Mex.; D. S. Calland, Managing Director Compania de Real del Monte de Pachuca, Pachuca, Hidalgo, Mex.

Mine Ventilation.

Charles A. Mitke (Temporary); Don M. Rait, Assistant Superintendent of Mines, Calumet & Arizona Mining Co., Warren, Ariz.; E. B. Williams, Manager, Mine Fan Department, B. F. Sturtevant Company, Hyde Park, Boston, Mass.; W. A. Rowe, Chief Engineer American Blower Co., Detroit, Mich.; Robert N. Bell, State Mine Inspector, Boise, Idaho.; F. L. Stone, care of General Electric Co., Schenectady, N. Y.; O. K. Dyer, Buffalo Forge Co., Buffalo, N. Y.; C. E. Legrand, Consulting Engineer, Phelps-Dodge Corporation, Douglas, Ariz.; A. S. Richardson, Chief of Ventilating Department, Anaconda Copper Co., Butte, Mont.; Norman G. Hardy, Chief Mechanical Engineer, Arizona Copper Co., Clifton, Ariz.; A. C. Stoddard, Chief Engineer, Inspiration Consolidated Copper Co., Box No. 15, Inspiration, Ariz.; D. Harrington, care of Bureau of Mines, Golden, Col.

INTERNATIONAL MINE RESCUE AND SAFETY-FIRST MEETING

HONORS DIVIDED BETWEEN TEAMS FROM EAST AND WEST.

East and West divided honors at the International First-Aid and Mine Rescue Meet. held in Denver, September 9-11. Three of the first-place winners were from the East, while a Western team rolled up the greatest number of points in all contests and thereby captured first grand honors.

The contests were held under joint auspices of the United States Bureau of Mines, the Colorado Chapter of the American Mining Congress, the Rocky Mountain Coal Mining Institute, the American Institute of Mining and Metallurgical Engineers and the Colorado Society of Engineers. D. J. Parker of Pittsburgh, chief of all rescue work for the Bureau of Mines, was personally in charge. Dr. F. G. Cottrell, director of the Bureau of Mines, and J. F. Bailey, assistant director, were in attendance.

First place in the first-aid contests was won by the New River Company, Captain Louis Roncaglione of Scarbro, W. Va. First place in the mine rescue contests was won by the H. C. Frick Coke Co., Captain S. Cominsky of Leisenring, Pa. First place in resuscitation work was won by the team representing the Knox County Operators' Association, Captain John Moore of Bicknell, Ind. The team from the Wadge mine of the Victor American Coal Co., Denver, Col., Captain Robert Halbert, won first place on its combination first-aid and mine rescue work, and by virtue of scoring the greatest number of points was considered first winner of the meet.

Mine Rescue Contest.

Twenty-one teams were entered and seventeen actually contested in mine rescue work, each member being subjected to individual questioning. Judges were Orr Woodburn of the Globe-Miami Rescue Association; R. Z. Virgin, technical editor of the Coal Trade Bulletin; William Nesbitt, mine inspector of the Keystone Coal & Coke Co.; L. M. Kuhns of the Gallup American Coal Co.; W. G. Dun-

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JOSEPH A. HOLMES' HEROISM LAUDED BY DR. COTTRELL.

Tribute to the memory of Joseph A. Holmes, first director of the Bureau of Mines, was paid by the incumbent director, Dr. F. G. Cottrell, at Denver when he announced the award by the Joseph A. Holmes Safety Association of diplomas and gold medals to seven heroes, three of whom perished in the line of duty.

Announcement of the award was made on September 11 during the International Mine Rescue and Safety First meeting, which was held under joint auspices of the Bureau of Mines, the Rocky Mountain Coal Mining Institute, the Colorado Chapter of the American Mining Congress, the American Institute of Mining and Metallurgical Engineers and the Colorado Society of Engineers. Dr. Cottrell pronounced Joseph A. Holmes "a martyr to the cause of safety," and his brief address of announcement was one of the features of the entire meeting.

Dr. Cottrell spoke, in part, as follows:

"It has fallen to my lot tonight as president of the Joseph A. Holmes Safety Association to announce the names of those heroes of the mines to whom the association has awarded its gold medals and diplomas in recognition of their heroic acts in risking their own lives to save the lives of others within the ranks of the mining industry.

"It is particularly appropriate that the organization to give recognition to acts of heroism by the men of this great and hazardous industry should be named for the man whose frail body succumbed to the strain of providing safety to the men who toil in the mines.

"Joseph A. Holmes proved a martyr to the cause of safety just as some of the men whose deeds are to be recounted briefly tonight. Those who knew him loved him, not only for his great ability, but especially for his great unselfishness in the cause of the miner, which led to his untimely death. It was typical of Holmes, as of the average miner, that his deeds of heroism were not of the spectacular type that are performed before the multitude and bring forth the spontaneous plaudits of the people. Rather, like the miner, his heroic

work was done under the commonplace of duty—plain, prosaic duty. The peculiar thing, the notable thing, is that the miner, when he performs something that the world later says is heroic, does it under the simple urge of duty, with the sole purpose of trying to save life. Heroism of this character is of the very highest and purest type.

"It has seemed singular to me that the only heroism that is officially recognized in times of peace by the United States Government through the award of honor medals is the saving of life from the perils of the sea. According to the statutes, the Secretary of the Treasury is directed to cause to be prepared medals of honor, with suitable devices to be distinguished as life-saving medals, which shall be bestowed upon any persons who shall endanger their own lives in saving or endeavoring to save lives from the perils of the sea within the United States or upon any American vessel. No one would deny this recognition given to the men of the sea; it is the wholesome, pleasing, worthy act of our beneficent Government. But I am very glad that, in the absence of Government recognition of acts of bravery in the mining industry, we do have such an agency as the Joseph A. Holmes Safety Association, with its public award of medals for deeds of heroism by the men who go down in the mines. For no man is braver in time of need, or more willing to risk his life to save the life of another, than the miner, and in time of a mine disaster it is never a question of who will volunteer to enter the zone of death. Such is the eagerness to respond that it often becomes the stern duty of some cool-headed foreman or miner to hold back the men while a few are selected to conduct the rescue work in an efficient, orderly manner."

Awards for Heroism.

Actual presentation of the medals and diplomas was not made at Denver, but will take place later at the convenience of the recipients. The following awards were announced:

MICHAEL CONROY, Butte, Mont.: diploma and gold medal. On June 8, 1917, lost his life in the Speculator Shaft of the North Butte Mining Co., in company with Peter Sheridan, in an effort to rescue men in the 2200-foot level who were imprisoned by a mine fire. Nearest kin: Mrs. Catherine Conroy, wife, Mace Middle, Claremorris, County Mayo, Ireland; Mrs. P. J. Jordan, sister, 419 Watson avenue, Butte, Mont.

PETER SHERIDAN, Butte, Mont.: diploma and gold medal. On June 8, 1917, lost his life in the Speculator Shaft of the North Butte Mining Co., in company with Michael Conroy, in an effort to rescue men in the 2200-foot

level who were imprisoned by a mine fire. Nearest kin: Mrs. Sarah Sheridan, wife, The Square, Newtonhamilton, County Armagh, Ireland.

JAMES D. MOORE, Butte, Mont.: diploma and gold medal. On June 8, 1917, lost his life in the Speculator Shaft of the North Butte Mining Co. by suffocation from gases from a mine fire, after having directed the construction of a barricade that was responsible for saving the lives of eight miners. Nearest kin: Mrs. Amelia E. Moore, wife, Sequayah Country Club, Station G, Oakland, Cal.

DANIEL BEONDICH, Biwabik, Minn.: diploma and gold medal. On February 1, 1919, a fire occurred in the Belgrade mine (iron ore) of the Balkan Mining Co., in which one life was lost and the lives of many others were in great danger. Three separate times Beondich ran a motor into the smoke and gases and brought helpless men to places of safety, and later came to the surface and descended the timber shaft and rescued a miner made helpless by the gases from the fire.

JAMES COLLINS, Mullan, Idaho: diploma and gold medal. On November 21, 1919, in company with Jacob Delmarh, was imprisoned for 15½ hours by a cave-in, while engaged in the hazardous work of opening an abandoned raise in the No. 6 Northwest stope in the mine of the Gold Hunter Mining & Smelting Co., in an effort to rescue Peter F. Grant and Emil Sayko, who had been imprisoned by a cave-in in the stope on November 15, 1919. Grant and Sayko were rescued after being entombed 14 days 4½ hours.

JACOB DELMARH, Mullan, Idaho: diploma and gold medal. On November 21, 1919, in company with James Collins, was imprisoned for 15½ hours by a cave-in, while engaged in the hazardous work of opening an abandoned raise in the No. 6 Northwest stope in the mine of the Gold Hunter Mining & Smelting Co., in an effort to rescue Peter F. Grant and Emil Sayko, who had been imprisoned by a cave-in in the stope on November 15, 1919. Grant and Sayko were rescued after being entombed 14 days 4½ hours.

JOHN LATSON BOARDMAN, Butte, Mont.: diploma and gold medal. On February 28, 1917, during a fire in the West Colusa mine, a party of six men attempted to descend from the 900 to the 1000-foot level to assist a surveyor who had been affected by the gases. Before reaching the surveyor, the party encountered gases and one was overcome. The remainder of the party being affected, tied their companion with a rope to prevent his falling, and climbed to the 900-foot level. Mr. Boardman arrived on the scene and assisted three of the party to a safe place and returned to the raise and descended, and with a rope and the assistance of an unknown man raised the unconscious man to the level above, and when in fresh air revived him.

HONORS DIVIDED BETWEEN TEAMS FROM EAST AND WEST.

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can, instructor of Pennsylvania State College; E. L. Flinn, safety inspector of the Republic Iron & Steel Co.; Byron D. Shove, safety inspector of the Oliver Mining Co., and Jesse H. Rogers of the Associated Companies, Pittsburg, Kans.

Three technical problems were submitted to the contestants. In Problem No. 1 a rescue crew was bringing a body from a fire or explosion area. One member of the crew, while in irrespirable air, fell and rendered himself unable to travel farther. His mouthpiece remained in place. His removal was required. Problem No. 2 consisted of having the full teams spend five minutes in a smoke gallery containing formaldehyde fumes, after which their pulses were examined. Problem No. 3 consisted of removing an unconscious but gasping miner from a mine in which a fire had occurred. In addition to taking part in the solution of these problems, each team member was examined and quizzed as to the adjustment of his apparatus, demerits being charged for failure to name safety tests, for improper adjustment of apparatus and for inability to answer questions promptly.

Winners were: First, H. C. Frick Coke Co., Leisenring, Pa.; second, Wadge mine of the Victor American Fuel Co.; third, Homestake Mining Co., Lead, S. D.

First-Aid Contest.

Sixty-eight teams from all parts of the United States, Canada and Mexico actually participated in the first-aid contests. The stockyard stadium was transferred into an army hospital, where the various teams, with forty doctors, administered imaginary first-aid treatment to hypothetical wounds in the eye, arms, leg and other parts of the anatomy, and to men supposed to be suffering from gas, powder smoke and other troubles met with in metal and coal mines. For every little departure from the 100 per cent. correct way of doing what had to be done, demerits were given.

Winners were as follows: First, New River Coal Co., Scarbro, Pa., mine; second, St. Louis, Rocky Mountain & Pacific Coal Co., Raton, N. M.; third, DeBardeleben Coal Co., Sipsey, Alabama.

MEXICO RELIED UPON TO MEET AMERICA'S OIL NEEDS

Mexico offers the greatest promise for replenishment of America's oil supply, according to a report just issued by the Department of Commerce. The Department emphasizes the continued heavy demand since the war, saying the fact that the United States produces two-thirds of the world's supply should be considered with the circumstance that 40 per cent. of American producing wells have become exhausted, that the domestic market more than exceeds domestic output, and that the domestic supply will probably be exhausted in twenty or twenty-five years.

Production Capacity Greater.

The Department estimated that Mexican wells are capable of producing from 1,500,000 to 1,900,000 barrels of oil daily, but at present only 12 per cent. of capacity is being produced. Full production has been hindered by lack of transportation and storage facilities, unwise legislation and political conditions.

Tracing the history of Mexican oil developments, the report refers to failures of Mexican explorers and the beginning of the oil industry in Mexico in 1900 by American oil men, E. L. Doheny and C. A. Canfield, who purchased land near the Vera Cruz boundary, producing 50 barrels a day in two weeks.

The Department predicts that petroleum fields of greater importance than those now known will yet be discovered in Mexico, referring to a report of the Mexican Government of an oil area in the Gulf Coast States of 80,000,000 acres, on the Pacific of 50,000,000 acres and in Lower California of 18,000,000 acres, a total of 230,000 square miles. Possibilities of further development are indicated by the fact that at present the combined area of the fields now being exploited in Mexico does not exceed 800 square miles.

American Companies Lead.

Of the total of investments in oil in Mexico, 97 per cent. is held by foreigners. In the United States only 4 per cent. of oil investments are held by foreigners. In 1918, 27 companies in Mexico were producing oil in commercial quantities—17 American, 5 Spanish-Mexican, 3 Dutch and 2 British. In 1918 American interests produced 73 per cent. of the oil output of Mexico, British 21 per cent., Holland 4 per cent. and Spanish-Mexican 2 per cent. Of exports, Americans handled 79 per cent. and British the remainder.

On November 1, 1919, there were 1056 oil wells in Mexico. Of the 305 producing wells, with a possible capacity of 1,600,000 barrels per day, 200 are owned and operated by American capital.

REDUCTION OF TAXES IMPROBABLE IN REVISION OF REVENUE LAWS

By ROBT. G. WILSON

Chief of the Tax Division of The American Mining Congress.

Despite popular expectancy, downward revision of Federal taxes is not to be a concomitant of revision of the tax laws.

A material reduction in the volume of the burden is an improbability for the next several years. However unwelcome the conclusion, there is neither virtue nor advantage in further deferring acknowledgment of fact. A condition, and not a theory, again confronts the Government.

The elimination of the excess profits tax, with further loss from correction of the most flagrant injustices excited by the present income tax, requires that an equivalent amount of revenue be provided otherwise. The fiscal necessities of the Government unfortunately admit of small hope for an early decrease in the income realizable under the existing system.

A period of readjustment, which is more appropriately descriptive of domestic affairs in the present instance than "reconstruction," is the inevitable aftermath of war. Readjustment, following the industrial abnormality and mental hysteria of a great war, logically implies a gradual return to regularity of economic and social process, with contraction of unproductive expenditure and lowering of costs, including those of government. The popular assumption that a reduction of war taxes should follow two years of peace is orderly and fair, but unfortunately exigency is sometimes a higher law than logic.

The facts are rather conclusive. Necessity knows no law save that of compliance. Further long-term borrowing is unthinkable in view of the interest rate demanded in the present market, and short-term notes would prove but a costly and temporary postponement of the inevitable. There is presented only taxation as a lesser evil than confiscation, the honest name of capital levy. But why the necessity for peace-time taxation in the magnitude of \$5,000,000,000—\$50 per capita?

The Cost of Government.

Before concluding the last session Congress appropriated a total of \$4,859,890,327.30 to meet the estimated charges for maintenance of the Government during the fiscal year beginning July 1, 1920, including \$980,000,000 interest on the public debt. The aggregate has been approximately grouped by the chairman of the Committee on Appropriations as follows:

Appropriations incident mainly to past wars	\$2,828,118,400
Appropriations incident to present national defense.....	855,956,903
Appropriations incident to civil functions of Government.....	979,319,946
Deficiency appropriations.....	196,495,048
Total	\$4,859,890,327

The Government collected \$5,410,281,874 in taxes during the fiscal year ended June 30 last, but while it is conjectural to what extent tax revenue will be automatically de-

creased by economic changes during the current year, it is improbable that it will much exceed \$5,000,000,000, even should the existing laws endure. It has been estimated that without change in the present system the total Federal receipts for the year ending June 30, 1921, would reach about \$5,470,000,000 from all sources, subdivided as follows:

Income tax, individuals.....	\$1,300,000,000
Income tax, corporations.....	550,000,000
Excess-profits tax.....	1,000,000,000
Other internal revenue taxes.....	1,350,000,000
Customs	265,000,000
Postal revenues.....	460,000,000
Miscellaneous revenue including salvage of war materials, etc.....	450,000,000
Total	\$5,470,000,000

The foregoing supports the reasonable expectation that even with additional governmental expenditures during the current year to be provided by the inevitable deficiency appropriations, the total fiscal transactions will result in a surplus.

However, any excess receipts over disbursements for the current year will not prove any too ample for accretions to sinking funds, which should be provided against the retirement of the floating public debt. The current obligations, while materially reduced during the last year, are still of large and costly proportions.

Huge National Debt.

The total national debt is now approximately \$24,100,000,000, of which about \$2,350,000,000 consists of floating indebtedness represented by Treasury certificates issued at an interest rate of from $5\frac{1}{2}$ per cent. to 6 per cent.

A statement obtained from the Treasury at the end of September indicates a net foreign allied debt to the United States at the present time of approximately \$9,430,000,000, after allowance for unwithdrawn balances and other charges against the credits originally established. These foreign loans, which are virtually all formally payable upon demand, carry a total annual interest charge of close to a half billion dollars. Unfortunately, however, payments are far in arrears, and international negotiations are now pending which will probably result in deferment

of interest settlements entirely or in largest part for three years, as well as probably indefinite postponement of reduction of principal. It is evident, therefore, that in preparing a national tax budget little dependence can be placed upon relief from across the waters. The United States must continue to carry with its war cross a part of the fiscal burdens assumed by its allies.

The problem of the floating indebtedness does not seem to present an alternative to simple extinction by sinking fund accumulations within the next three years. An analysis of sound fiscal policies must reject any consideration of further postponement of the current obligations, which could only be attempted by a funding procedure under most adverse, if not impossible, conditions.

Any measures taken within the next year or two to fund a substantial portion of the floating debt at a reasonable interest rate would probably prove a failure, in view of the present market prices of Government bonds, even were it possible to effect the necessary selling organization and arouse the public enthusiasm which attended the Liberty Loan campaigns. Further bond issues at the present time, even if they could be disposed of, would necessarily have a drastic effect upon the market quotations of the existing issues, regardless of interest rates or supplementary tax-free and other inducements. Perhaps a moderate national bond issue could be floated with an interest rate of from 5 per cent. to $5\frac{1}{2}$ per cent., but even ignoring the effect upon the market for the preceding and larger issues, such action would prove utterly unsound and should not be seriously considered in view of the fact that it would mean but a costly deferment for a long period of a distinct obligation that ultimately must be met.

Economic Effect of Bonds.

These, however, are not the only or chief considerations. One of the primary aims of the forthcoming revision of the tax laws will be to accomplish not only a more equitable distribution of the tax burden, but to eliminate as far as possible its influence in preventing the flow of additional capital now so essential for industrial progress and development. It should be one of the funda-

mental objectives of government to increase the availability of means for economic progress, and improve opportunities rather than diminish the livelihood of capital and the collateral interests of labor.

Even eliminating proper consideration of the economic and social effect of failure to reduce the national indebtedness, and particularly the costly unbonded obligations, there is an important practical objection to the continued short-term borrowings on the part of the Treasury. In 1923 more than \$4,240,000,000 of Victory notes mature, together with upward of \$1,000,000,000 of War Savings securities, or a total maturity problem involving liquidation in excess of \$5,000,000,000.

While it appears unavoidable that a material decrease in the volume of Federal taxation cannot be effected for at least several years, it is, on the other hand, unjust that two years and more after cessation of hostilities taxpayers should be submitted to an increase of the already excessive tax burden, so that any addition to the sinking fund accumulations provided by surplus of present revenues over expenditures is not a likelihood. Further, there is a saturation point in all taxation beyond which the productivity of revenue laws is subject to almost automatic diminution. We cannot, therefore, escape the assumption that at least a large part of the obligations maturing in 1923 must be refunded. It will probably prove a difficult undertaking, and it will be well if in the meantime the floating obligations are eliminated.

No Provision for Contingencies.

The foregoing presentation of elementary facts is without consideration of additional burdens which probably will accrue from the Transportation Act. There is, further, always the possibility of a turn in world events that would necessitate national armament beyond the normal program, and other contingencies. New problems born of dire necessity have a rather providential habit of lending themselves to successful solution by one means or another, as we have learned from the unprecedented success of the Liberty Loan campaign, but we shall all have more of the unquestioning faith in the ability of the future to take care of itself if every opportunity is availed of at the present time to effect some reduction of our \$240 per capita national debt, to say nothing of the rather alarming increase in State and municipal bond burdens.

This is the day of profound economic change. Its effect upon the productivity of the existing revenue machinery is not to be

ignored. With the prospective advance of the purchasing power of the dollar as the process of deflation continues, the volume of income taxes as well as excess profits taxes will automatically diminish. It is impossible, of course, to forecast the rapidity with which the dollar will regain its lost purchasing power, and consequently it is impossible to establish the degree of shrinkage in the income based on present statutes. It is certain, however, despite the conjecture as to the proportionate effect of the ultimate result of the economic change, that a mere refinement and lubrication of the revenue machinery will not alone suffice.

Any betterment in general economic conditions will have, of course, a practically instant effect upon trade and commerce, but the influence upon governmental expenditures will necessarily be projected in varying degree into the future, owing largely to the fixed nature of the commitments necessarily contracted in advance. There is to be a ratio, positive in ultimate effect but conjectural in the time of influence, of declining basic sources of revenue to the volume of governmental expenditures. Provision must be made against the delay in arrival to the Government of purchasing advantages which are now beginning to accrue to the public. It is true also that some of the important governmental commitments will not be affected in any degree by economic changes, notably the \$980,000,000 fixed interest charge upon the bonded debt, and sinking fund requirements.

Retrenchment in Expenditures.

As one economist has put it, "the compulsory character of taxation is so generally emphasized that most persons lost sight of the fact that, considered from another standpoint, the tax is a payment by the citizen for numerous and important benefits conferred upon him by the State." Life, liberty and the pursuit of happiness are concessions costly to maintain, but priceless in the possession.

The benefits the state of democracy is able to confer upon the taxpayer are worth \$50 per capita, but true democracy must exact efficiency and constrained costs of administration lest it lose many of the very benefits won in the rebellion against the oppressive taxation by autocracy. The Government, as well as the public, has an obligation to meet and a duty to perform. It in turn should be taxed with the responsibility to reform archaic methods of doing business.

A majority of the present governmental commitments is more or less fixed and not susceptible to appreciable reduction, but there are many opportunities for economy in the appropriations and expenditures for sundry civil items of maintenance and improvement. The institution of a true budget system, the

exercise of a little more care in planning the disbursement of the public funds and the methods of carrying out the functions of the Government, a little less pork in the barrel, will go a long way toward insuring a less grumbling attitude on the part of the taxpayer.

Retrenchment there will be, whatever the inspiration and extent, and it will be needed in full to offset the natural shrinkage in revenue that inevitably results from large dependence upon taxation of profits in a period of deflation.

The heritage of war is only fully comprehended in the cold light of the aftermath. The convalescing period must hold dangers and tribulations of its own. Alleviation of the confusion and inequities engendered by the present system of taxation is a problem of importance, one that is fraught with increasing difficulties. But the problem of fairly allocating to the present and succeeding years the direct and indirect war costs, and at the same time preserving a practical and businesslike fiscal policy, is another that apparently permits of solution only by intelligent understanding and courageous co-operation between the Government and the taxpayer.

Income Tax Too Ambitious.

Elimination of the excess profits tax and substitution of a device to provide an equivalent amount of revenue are not the only tasks to be faced by Congress. The income tax, while fundamentally sound and amenable to equitable administration if its functions are not overburdened, now works many compound fractures of common justice and economic laws. Unfortunately, its modification will in practically every instance effect a reduction of the revenue which would be provided in the present form, overloaded as it is with prolific but arbitrarily assumed premises of tax liability. The sudden emergencies of war forced toleration of many inequities, but mere expediency cannot alone carry much weight in the devising of peace-time tax codes that are expected to stand unchanged for at least a few years. Refinement of the income tax therefore becomes a problem not incomparable in many of its phases with that of finding a substitute for the excess profits tax.

Considerable complaint is heard ament the burden of the surtaxes. It is not, however, with any sentimental consideration for the wealthy in their opposition to the higher brackets of the graduated personal taxes that recognition is being taken of the advisability of reducing the rates or otherwise providing relief. Individual wealth, upon the unrestricted flow of which progress and development so essentially depend, has found increasing sanctuary in municipal and other

tax-free investments encouraging wasteful expenditures and ill-timed community luxuries. The economic effect of this diversion of funds required for healthy industrial expansion and concomitant contraction of high living costs is assuming alarming proportions. Further, the higher surtaxes are in themselves proving self-defeating in that revenue dependence is placed upon sources which are gradually disappearing. Important practical objections to further postponement of tax-law revision, from the governmental standpoint alone, appear at every turn. Adequacy, the prime determinant of a tax device, fails in the instance. It is in a way rather fortunate, perhaps, that the urgent need for tax reform is more and more involving considerations of mutual concern to taxpayer and Government.

Productive industry is suffering to an unhealthy degree as a result of the impossibility of obtaining new capital in competition with the offerings of States and municipalities, except at usurious rates. The mortgage market is disappearing and the housing difficulties increasing. Credits are strained, initiative discouraged and enterprise, the lifeblood of progress, aborted. New sources of revenue, essential to an adequate tax program, are failing to materialize. The incentive to risk in the hope of substantial gain is diminished by the necessity of including the Government as a major partner in profit without liability in event of loss. The economic delinquency of excessive taxation has become an established blockade to the normal expansion of industry.

Proposed Relief.

If measures can be presented to remedy the inimical conditions provoked by the higher surtaxes upon personal incomes, avoiding inequitable compensatory taxes, Congress should prove receptive. The following recommendation will be submitted by one of the largest organizations now engaged in the study of the subject:

Saved and reinvested income of an individual to be deemed to be at the top of his net income, but the surtax rates ordinarily applicable to such portion of his income (if in excess of 20 per cent.) to be reduced to 20 per cent.

The reduction in the present revenue of from \$200,000,000 to \$250,000,000 will eventually be more than compensated by the increased earnings upon which the tax income is based, resulting from an industrial expansion accelerated by the investments induced by the foregoing proposal.

We are accustomed perhaps to underestimate the inclination and ability of the wage-earning masses to comprehend the reaction

upon labor as well as capital of fundamentally unsound laws and economic practices, but we can have no pretense that the advantages to the public of the reduction of surtaxes will become generally appreciated immediately. However, the direct stimulus to thrift and saving cannot fail to operate as an appreciable influence upon reduction of the cost of living, by which the wage-earner will profit. Perhaps this contributive effect will never be identified as the result of larger exemption to wealth, but socialistic dogma is in fair way of being silenced if living costs decrease without loss of prosperity and without aggregate reduction of taxes.

The proposal for this optional relief from burdensome surtaxes has the support of the Treasury. Secretary Houston, in a communication to the House Committee on Ways and Means, offered the opinion that "it is important that the methods of taxation employed should in all cases penalize saving and investment as little as possible. Our present surtaxes offend greatly in this respect. We attempt to levy surtaxes rising to 65 per cent. upon ordinary income, while there are thousands of millions of tax-free securities in the market, the income from which is practically exempt from all taxation. The result is to make investment by wealthier taxpayers in the expansion of industry or foreign trade unattractive and unprofitable. It is obvious that this situation should be remedied.

"The remedy which most commends itself to my judgment at the present time is to reduce surtaxes attributable to that part of the net income which is saved and reinvested in business or property yielding taxable income and at the same time to limit the total amount of such reduced surtaxes to the same percentage of the reinvested income as a rate imposed upon the undistributed profits of corporations.

"The revenue lost by such an amendment could, if necessary, be made up by increasing the normal tax or that portion of the surtaxes attributable to income spent for purposes of consumption. But the time is fast approaching when the adoption of such an amendment would cause little real reduction of the revenue. We cannot long continue to collect surtaxes rising to 65 per cent. upon income from ordinary business and investment while exempt interest at a remunerative rate can easily be secured from tax-free bonds. We must take something less than 65 per cent. or in the end take nothing."

Restrictions and Complications.

Remedially constructive as this contemplated amendment would prove, its application is, of course, confined. The thousands of

millions of dollars now resting in tax-exempt securities will, of course, retain the absorbed capital, and the interest thereon will remain free from tax. It is true that the proposal will have a direct tendency to divert Federal, State and municipal bonds from personal possession to trust funds, etc., but the transition period will necessarily be lengthy. Further, the advantage of the amendment will only appear to those subjected to surtaxes in excess of the 20 per cent. rate.

In fact, the relief to the taxpayer will partake somewhat of the nature of an option in that upon him will rest the burden of proof of saving and reinvesting, with inevitable complications arising from categorical definitions, or lack of definitions, of the many forms of saved and reinvested income. However, the impression steadily grows that not only is simplicity not an accompaniment of equitable and sound taxation, but that complexity increases almost in direct ratio to the evolution of higher principles. We can but repeat the admonition that the terms "simple" and "equitable" in the actual practice of collecting taxes are found to be contradictory.

The exemption from Federal taxation of State and municipal bonds arises entirely from judicial interpretation of the Constitution, not from principles of taxation or the desire of lawmakers. As a matter of fact, its result is a denial of the premise that unearned income should bear a heavier tax than earned income.

Soon after the Supreme Court declared stock dividends non-taxable as income, a bill was introduced in Congress to impose a special excise tax upon such distributions. Cannot means be devised to reach the income from State and municipal issues? The stock dividend case involved highly technical distinctions between capital and income, with several justices dissenting from the opinion, but surely there can be no question as to the nature of interest and, open-mindedly, its ethical susceptibility to taxation.

The suggestion has been made that the optional character of the proposed relief from higher surtaxes should be extended; that as a prerequisite of the reinvested income exemption the taxpayer shall include in the return of all income the interest received from ownership of State and municipal securities. While there may be some question as to the legality of this device, it is fundamentally sound in theory at least, and the fact that it does not become mandatory, but merely operates at the option of the taxpayer to give him a larger net benefit, recommends it to serious consideration.

Equitable Recommendations.

There are many other proposals for removal of exceptional burdens imposed by the present income-tax law, but the adoption of further relief measures will be determined largely by consideration of the revenue loss entailed. The following more important recommendations carry the weight of months of investigation and deliberation on the part of business men and economists of high repute and will be presented to the Second National Industrial Tax Conference in New York in October:

1. Net loss for any year to be deducted from income of succeeding year, or of preceding year to extent that income of succeeding year is insufficient. Retroactive to 1918.

2. When property is exchanged for other property the property received in exchange not to be deemed the equivalent of cash unless readily marketable without sacrifice; determination of taxable gain to wait upon conversion into cash.

3. Corporation reorganization involving only an exchange of securities not to be considered as a closed transaction, but only as a replacement; to be taxed only in the same manner as recommendation 2.

4. Prompt enactment of the bill (H. R. 14198) passed by the House of Representatives May 27, 1920, now pending in the Senate, with an amendment that, with respect to taxes for 1920 and subsequent years, the period within which an additional assessment may be made should be made three years instead of five years.

5. Capital-stock tax to be amended so as to provide that the fair value of the capital stock shall be based upon the capital surplus and undivided profits as shown on the closing balance sheet submitted with the last previous income-tax return, that the commissioner shall assess the tax directly from such income-tax return, thus avoiding the necessity for a separate return for the capital-stock tax.

No Utopia Yet.

The abolition of the excess-profits tax and the modification of the most objectionable features of the income tax will prove an expensive and difficult project. An approximate amount of revenue must be provided otherwise, and this means the raising of upward of one and one-quarter billions as nearly equitably and practically as possible.

Many proposals have been made, but few

have withstood the test of principle and practical analysis. The general sales or turnover tax of 1 per cent. is steadily losing ground for the reasons reviewed in the previous article. There is a distinctly discernible tendency toward retention of the present 10 per cent. normal income tax upon corporations, with an additional corporate income tax intended as compensatory for the surtax upon individuals, or a tax upon undistributed profits to accomplish like result. The present exemption of \$2000 to corporations, if eliminated, would give the Government more than \$50,000,000 additional annually. Its excuse, both practically and theoretically, has often been disputed.

To maintain a closer tax relation between individuals and corporations the personal normal income tax at the present rate of 8 per cent. upon the excess over the first \$4000 may be increased to 10 per cent. There is no particular movement at the present time which involves any material adjustment of the personal exemption or the rate upon the first \$4000 of taxable income.

Increase of the excise upon commodities now subjected to levies is almost a certainty, with considerable expansion of this form of indirect taxation. Certain widely distributed articles of domestic consumption can bear a small tax without hardship to the taxpayer and without excessive administrative difficulties. There is to be considered, further, the action taken abroad and in Canada recently to reach at a higher rate non-essentials which might readily provide largely increased revenue to the Government and inflict no particular suffering upon the purchaser. Such legislation accomplishes an additional result in that it must have a direct tendency to restrain extravagance, yet is productive of revenue because of the minimum demand for luxuries that inevitably exists.

Equity, in terms of taxation, is a relative thing. After insuring adequacy of revenue and practicability of administration an acceptable code must, theoretically, provide for equitable distribution of the burden, but the third test is always by comparison. "There is no tax that is not an evil tax," and billion-dollar levies that directly or indirectly affect a hundred millions must impose inequities. Yet there is a minimum that has not yet been attained.

We may ultimately find a true and happy meeting ground between the unstudied demands of the proletariat and the profferings of the academy, but the adage holds that: "He who expects an honest tax to see, expects what n'er was and n'er will be."

Note.—This is the second of a series of articles dealing with Federal tax revision. The third will appear in the November issue of *The Mining Congress Journal*.

TAXING YOUR MIND

The peregrinations of those perennial paranoics, the taxologists, frequently find them within eye and earshot of the inner sanctums of the Internal Revenue Bureau, with the result that something like this may slip by the editor and break into print:

A Treasury Decision will be issued shortly to the effect that absolution shall hereafter be denied taxpayers who persist in referring to T. D.'s as D. T.'s.

Apropos of delirium tremens, it is heard on the Avenue that as a result of a highly ethical determination to usurp none of the privileges of the guardians of the padded cell, Muldoon's or one of the other physical reformatories will no longer accept tax experts.

The industrial directories still link the name of one of the chieftains of the Natural Resources Division with a Western mining company. The other day he received a forwarded letter containing a subordinate's peremptory demand that he fill in Depletion Form D—a mere matter of 20 pages of tabulations and be quick about it! We who have suffered hope he is forced to make good.

Et tu, Brute!

The Natural Resources Division was "pleased to receive" the other morning a reply from a prominent coal company in the Alleghenies to the effect that the delay in submitting the remainder of the maps and tabulations required to accompany Form E was due entirely to the failure of the railroad company to supply freight cars, but that as an evidence of good faith four or five fully loaded trucks would be dispatched at once.

HELP WANTED By Income Tax Unit, immediately, six thousand file clerks, etc. Good health essential.

Low risibility in the Treasury Annex this morning. Inquiry from Little Italy, probably re family exemptions: "Taxi Dept.: Signor Marelli, he tell me you send me two hundred dollar for each my little six bambini. Signor Garibaldi, he tell me sure you taxi me two hundred dollar each bambino. No can pay, O, why do I live."

Rumored reply: "Don't understand it ourselves."

Sealed bids are being submitted for an odd copy of the Revenue Act of 1918 the pages of which were evidently ill-assorted in the bindery. Before noticing that page 63 immediately followed 12, a Revenue Bureau auditor had made up his mind that the Volstead Act was going entirely too far. He read that in computing net income there shall be allowed as deductions contributions or gifts to an amount not in excess of 15 per centum of the taxpayer's net income as computed without alcoholic strength, etc.

CAL Q. LUS.

I have read carefully and with great interest the copy of the statement submitted to the Attorney-General of the United States by the American Mining Congress concerning relief for war mineral producers which you were kind enough to forward to me. I desire to say that I am very much impressed not only with the logic of the argument which you have made, which I think is absolutely correct, but I am particularly impressed with the tone and splendid poise of the argument. In a matter of this kind, even if the logic of the law argument is all on your side, the whole thing might have been spoiled by a captious or intemperate expression. Such things very easily occur in the line of a strenuous argument. It is especially praiseworthy, therefore, that in presenting so full and complete an argument with such convincing logic that there is not a single expression in the argument to which either the Attorney-General or the Commission will take exception. You have presented the problem, I feel, in the very best way possible, and I cannot too highly commend the care which has been taken in the presentation of this argument. —Excerpt from letter received from Judge John A. Davis of San Francisco.

MINES FURNISH 52 PER CENT. OF CAR-LOT REVENUE FREIGHT

American mines provided 52 per cent. of all revenue freight carried by Class I railroads in carload lots during January, February and March, 1920.

Base bullion, ores, coal, coke, crude oil and other raw products of the mines furnished 52 per cent. of all car-load tonnage, or 255,111,986 tons of the total 488,774,405 tons of carload freight carried. Refined petroleum and commodities manufactured exclusively out of metals made up an additional 43,855,196 tons. The grand aggregate of raw and manufactured mine products transported was 298,969,282 tons, or 61 per cent. of all revenue freight.

In addition to the car-load tonnage, Class I roads carried 22,925,096 tons in L.C.L. lots, making 511,699,501 tons the total of all revenue freight. Calculations in this article are based entirely on carload freight because the total of L.C.L. shipments was comparatively small and because the Commission has treated all L.C.L. freight as a separate classification.

The summary of freight commodity statistics of Class I roads for the quarter ended March 31 is the most exhaustive one ever prepared by the Interstate Commerce Commission. It is the first one made under the Commission's order of December 1, 1919, prescribing a new classification of commodities and requiring quarterly reports. The summary analyzes by classes of commodities the tons and numbers of carloads carried by Class I roads, which roads in 1919 carried 91.8 per cent. of the total tonnage originating on all roads, exclusive of switching and terminal companies. In former summaries of revenue tonnage the analysis included only 38 classes of commodities, but the present one deals with 70.

In its analysis the Commission makes use of six classifications, of which four are groupings of related commodities, one is devoted to manufactures and miscellaneous articles and another is used for all merchandise shipped in less than carload quantities. The first four groupings, each carrying its necessary subclassifications, are used for products of agriculture, products of animals, products of mines and products of forests. Figures of carload freight coming within the subclassifications of each of the five major groupings are given for the United States as a whole and also by districts, the districts being the Eastern, the Pocahontas, the Southern and the Western.

The Commission's figures on "products of mines," which include only the raw mine products, but which cover 52 per cent. of all car-load revenue freight tonnage, follow:

UNITED STATES.				
Products.	Cars.	Tons.		
Anthracite coal.....	639,891	26,374,695	Iron ore.....	89,974 449,344
Bituminous coal.....	3,384,164	168,016,396	Other ores and concentrates....	25,394 1,662,944
Coke.....	341,816	12,197,243	Base bullion and matte.....	5,598 219,624
Iron ore.....	139,069	7,366,047	Clay, gravel, sand and stone....	238,225 11,219,442
Other ores and concentrates....	162,449	7,475,294	Crude petroleum.....	7,634 267,697
Base bullion and matte.....	16,018	669,515	Asphaltum.....	9,034 274,792
Clay, gravel, sand and stone....	484,574	22,148,622	Salt.....	26,131 827,015
Crude petroleum.....	89,780	3,039,398	Other products of mines.....	18,064 653,256
Asphaltum.....	15,586	669,352		
Salt.....	57,687	1,767,279	Totals.....	3,261,910 158,171,828
Other products of mines.....	89,116	3,114,086		
Totals.....	5,428,164	255,111,986		
EASTERN DISTRICT.				
Products.	Cars.	Tons.		
Anthracite coal.....	605,310	29,137,711		
Bituminous coal.....	1,881,182	100,459,628		
Coke.....	264,061	9,639,425		
Products.	Cars.	Tons.		
Anthracite coal.....	1 143	50,487		
Bituminous coal.....	283,345	15,181,866		
Coke.....	13,971	525,550		
Iron ore.....	5,792	290,699		
Other ores and concentrates....	566	23,334		
Base bullion and matte.....	115	4,588		
Clay, gravel and stone.....	14,233	787,282		
Crude petroleum.....	332	11,412		
Asphaltum.....	211	5,716		

Salt	1,218	34,183
Other products	1,673	54,972
Totals.....	322,889	16,918,009

SOUTHERN DISTRICT.

Products.	Cars.	Tons.
Anthracite coal	1,365	64,510
Bituminous coal	410,931	19,226,453
Coke	24,363	803,004
Iron ore	23,550	1,520,977
Other ores and concentrates.....	4,213	173,812
Base bullion and matte.....	114	3,616
Clay, gravel and stone.....	73,965	3,041,404
Crude petroleum	6,230	181,202
Asphaltum	2,577	90,346
Salt	7,500	232,569
Other products	35,200	1,363,030
Total.....	596,208	26,700,920

WESTERN DISTRICT.

Products.	Cars.	Tons.
Anthracite coal	33,576	1,121,987
Bituminous coal	723,706	31,145,359
Coke	39,418	1,229,247
Iron ore	22,774	1,105,117
Other ores and concentrates.....	122,276	6,163,204
Base bullion and matte.....	70,191	432,687
Clay, gravel and stone.....	158,131	7,169,534
Crude petroleum	76,194	2,633,117
Asphaltum	6,764	238,588
Salt	22,828	668,512
Other products	34,179	1,407,977
Total.....	1,248,047	53,323,329

Figures for metal products listed by the commission under "Manufactures and Miscellaneous," amounting to 9 per cent. of the nation's total carload freight, follow:

UNITED STATES.

Products.	Cars.	Tons.
Refined petroleum and its prod- ucts	465,856	12,582,378
Iron, pig and bloom.....	179,891	8,962,423
Rails and fastenings.....	36,924	1,461,283
Bar and sheet iron, structural iron and iron pipe.....	303,212	13,800,220
Other metals, pig, bar and sheet	84,624	3,085,122
Casting, machinery and boilers..	201,559	4,168,270
Total.....	1,362,057	43,855,196

EASTERN DISTRICT.

Products.	Cars.	Tons.
Refined petroleum and its prod- ucts	175,321	4,740,422
Iron, pig and bloom.....	140,240	6,981,182
Rails and fastenings.....	21,244	862,257
Bar and sheet iron, structural iron and iron pipe.....	277,235	9,880,096
Other metals, pig, bar and sheet	60,562	2,191,779
Casting, machinery and boilers	138,898	3,256,421
Total.....	813,157	27,312,157

POCAHONTAS DISTRICT.

Products.	Cars.	Tons.
Refined petroleum and its prod- ucts	4,803	121,852
Iron, pig and bloom.....	6,014	29,635
Rails and fastenings.....	1,408	56,903
Bar and sheet iron, structural iron and iron pipe.....	6,341	197,298
Other metals, pig, bar and sheet	1,258	43,367
Casting, machinery and boilers	2,522	59,292
Total.....	23,356	763,387

SOUTHERN DISTRICT.

Products.	Cars.	Tons.
Refined petroleum and its prod- ucts	47,969	1,265,173
Iron, pig and bloom.....	16,148	698,181
Rails and fastenings.....	5,166	186,731
Bar and sheet iron, structural iron and iron pipe.....	22,348	654,933
Other metals, pig, bar and sheet	2,895	91,847
Casting, machinery and boilers	14,046	251,842
Total.....	108,572	3,084,707

WESTERN DISTRICT.

Products.	Cars.	Tons.
Refined petroleum and its prod- ucts	237,760	6,855,131
Iron, pig and bloom.....	16,889	751,425
Rails and fastenings.....	9,146	361,292
Bar and sheet iron, structural iron and iron pipe.....	87,288	3,067,953
Other metals, pig, bar and sheet	19,939	754,329
Casting, machinery and boilers	15,654	898,715
Total.....	416,676	12,687,945

Revenue freight carried by Class 1 roads during the first quarter is classified by the commission as follows: Products of mines (not including refined petroleum and manufactured metal products), 255,114,086 tons; manufactures and miscellaneous (including refined petroleum and manufactured metal products), 115,763,372 tons; products of agriculture, 56,215,783 tons; products of forests, 50,062,393 tons; merchandise, including all commodities in less than carload lots, 22,925,006 tons; products of animals, 11,618,771 tons.

Revenue freight, all classes, carload and less than carload, moved by districts as follows: Eastern district, 275,831,150 tons; Pocahontas district, 22,355,272 tons; Southern district, 64,267,591 tons; Western district, 140,245,488 tons.

COLORADO MINERS LAUGH AT
HIGH COST OF AUTOMOBILES

Practically 12 per cent. of the coal-mine employees of the Colorado Fuel & Iron Co. own automobiles. Out of 5000 such employees, 595 have managed to accumulate enough to support cars for use in their off-work hours. In nearly every mining community the C. F. & I. Co. has provided a garage for the machines of its employees, and in some of the larger towns two or three have been constructed. There are 418 stalls in these garages, and every one is occupied, while many employees who own automobiles cannot yet secure such company-owned facilities.

BRITISH GOLD SUPREMACY

By H. N. LAWRIE.

In an interview given out October 7 by Representative Louis T. McFadden, chairman of the Committee on Banking and Currency of the House of Representatives, he asked the following pertinent question with reference to the gold situation: "Is the United States to continue to ignore the problem of gold production, thus permitting the British Empire to gain an unquestioned supremacy?"

An estimate of the gold production of the United States based on the output for the first six months of this year indicates that the production for 1920 will be less than half the amount produced in 1915. In 1915 the United States produced 24.5 per cent. of the total world's gold output, and the British Empire 63.7 per cent. In 1919 the United States produced but 16.6 per cent. of the total world's output, while the British Empire produced in excess of two-thirds. Since July 24, 1919, the British Empire has been paying an exchange premium as high as 50 per cent. to the gold producers of South Africa, where the bulk of the British gold is produced, while in the United States no assistance has been rendered the gold-mining industry. This year the contribution of the United States to the gold production of the world will probably be not more than 12 per cent., about half of that which it contributed in 1915, while the stimulating effect of the exchange premium will probably increase the quota which the British Empire will contribute to 75 per cent.

As compared to 1914, the purchasing power of the dollar in terms of all commodities in 1919 was 47 cents. The gold producers' ounce in 1914 had a purchasing power of \$20.67, whereas during 1919 the same ounce could purchase in terms of all commodities but \$9.70. Since the price of gold is fixed by statute at \$20.67 an ounce, the gold producer is in the same position as a person who received the same income in 1919 as in 1914 and finds that a \$2000 income has shrunk in purchasing power to \$970." This is the principal reason for the decline of the gold production of the United States from \$101,000,000 in 1915, to less than \$50,000,000 this year," said Mr. McFadden.

Gold Stock Depleted.

The United States Mint sold for industrial consumption during 1919 nearly \$22,000,000 more gold than was produced from the mines of the United States, while this year the drain on the monetary gold stock will probably be \$10,000,000. The American Bankers' Association passed a resolution on October 2, 1919, urging upon the Government the necessity for maintaining a domestic production of new gold in sufficient volume to satisfy the industrial requirements of the arts and trades. To comply with the specifications of this resolution, the soundness of which cannot be questioned, Mr. McFadden introduced H. R. 13201 on March 22, 1920.

Consumers Now Subsidized.

Since the industrial consumers of gold are the only ones in the country receiving raw material at the pre-war price, while the general increase in all commodities was 112 per cent. in 1919 as compared with 1914, it is evident that they are being heavily subsidized. Mr. McFadden emphasizes that the imposition of this excise tax merely adjusts the cost and price equation between the producer of new gold and the consumer of gold in the industrial arts, and is free from all monetary entanglements. A free gold market is maintained under the provisions of this bill for the reason that the excise tax is collected on the finished product as sold, and not upon the bullion which is sold to

the manufacturers. There is nothing in the bill which in any way alters the number of grains in the standard dollar, the unit of our monetary system. The bill creates the Governmental machinery by which the consumer of gold in industrial arts may pay more nearly the cost of production for his raw material. The stimulus to the gold producer specified in this bill is equal to the excise tax imposed, and is no greater than the exchange premium paid by Great Britain in the latter part of 1919 to the South African producer, whose operating conditions are still more favorable than those in the United States.

Heavy French Tax.

In addition to paying the exchange discount, which in the case of the French consumer of gold would amount to 100 per cent. more in francs than the price paid before the war, the French Government has imposed a sumptuary tax for the use of gold in the fabrication of articles (other than money) of 60 francs per hectogram (\$3.73 per fine ounce) by law of June 25, 1920. Previous to that date the guarantee tax was 37 francs, 50 centimes per hectogram. The French Government justifies this tax in a formal document transmitted by the United States Bureau of Foreign and Domestic Commerce as follows: "Moreover, this tax, striking as

it does luxury goods, or unessential articles, enters into the category of a sumptuary tax, the levying of which is admitted by all economists as a legitimate procedure."

Gold Standard Protected.

It is important that the gold-mining industry be kept alive for fear that with greatly reduced production there will be difficulty in retaining the gold standard during a popular campaign for credit restriction accompanied by declining prices. The continued depletion of the gold stock by excess exportation and industrial use will seriously impair the public confidence in the nation's finance and currency unless a normal gold output is insured.

Waste Makes Want.

The gold-mining industry will be completely shut down unless constructive aid is provided without delay, in which event it will take years to develop a normal output of gold at a very much greater expense. To allow the gold mines of the United States to cave in and fill with water entails a waste of developed gold resources which, in a most critical hour of financial need, will cause want. No argument can be made in favor of waste. The time to act is now before the industry is shut down.

ALL-AMERICAN ROUTE FROM LAKES TO SEA IS PROPOSED

Following the publication in the August MINING CONGRESS JOURNAL of an article relating to the possible development of hydro-electric power through the canalization and deepening of the St. Lawrence River to the sea, considerable discussion was aroused on the subject. Attention has been called to the fact that one of the applications for preliminary development license filed with the Federal Power Commission was that of Millard F. Bowen and associates, who propose both to construct a 30-foot waterway from Lake Erie to Lake Ontario to the Hudson River at Albany, and to develop approximately 1,000,000 hydro-electric horsepower. Mr. Bowen states that the money for bearing all the expense of this gigantic project is already as-

sured; that the entire water route will be operated under Government control permanently without tolls, and that the beginning of work awaits only the issuance of a license by the Federal Power Commission or the granting of a charter by the Congress of the United States.

The proposed development would be entirely upon American territory. Twenty years ago a board of engineers, consisting of Messrs. Raymond, Noble and Wisner, made an investigation and reported it was entirely feasible to build a 30-foot channel from the Great Lakes to tidewater in the Hudson River below Albany, wide enough to permit of a speed of 10 miles an hour each way. Previous to that, or in 1896, the United States Deep Waterways

Commission had recommended that the proposed Niagara Ship Canal from Tonawanda to Olcott be constructed, but the possibility of developing hydro-electric power sufficient to cover all costs of the ship canal was not considered.

Under the plan of Mr. Bowen and his associates, the route of the canal would begin on Lake Erie at Lackawanna, south of Buffalo, and proceed to Lake Ontario at Olcott. Sufficient water for navigation purposes and for the development of 800,000 horse-power is obtainable under existing treaty rights. Lake Ontario would be the route from Olcott to a point east of Oswego, where a canal level starting 137 feet above the waters of the lake would convey ships a distance of 90 miles to Little Falls. The distance between Lake Ontario and the Hudson is 164 miles. Between Lake Oneida and Albany the New York State Canal would be used, but it would be deepened to 30 feet. Six hundred thousand horse-power would be developed from the use of all the waters between Lake Ontario and the Hudson River. About 90 streams from the Adirondacks and Catskills would be dammed for power development purposes.

Would Divide Surplus Profits.

In discussing the advantages of the all-American route over the St. Lawrence route, Mr. Bowen points out the fact that the proposed route would belong entirely to America and Americans. He believed, however, that both routes will be ultimately needed for transportation purposes, but adheres to the opinion that it would be the part of wisdom to develop the all-American route first. The cost of construction of the proposed route, according to Mr. Bowen's calculations, will be \$200 per horse-power. There will be sufficient inducement for his associates to construct the canal and locks and turn them over to the Government and depend for revenue entirely upon the sale of electricity. He and his associates plan even to make sufficient profit to divide with their employees, the Government and the State of New York. This contemplated arrangement is covered in Section 9 of their proposed charter, which reads as follows:

"After all necessary expenses of said corporation shall have been paid or provided for, together with adequate payments on a sinking fund for redemption of its bonds, the stockholders shall be entitled to receive an annual dividend of 10 per cent. on its paid-in capital stock, which dividend shall be cumulative. After such dividend claims shall have been fully met and sinking fund payments made, all the net earnings shall be annually divided into four equal parts; one part thereof shall be paid to the United States, one part thereof shall be paid to the State of New York, one

part thereof shall be divided equitably among the employees of said corporation who have earned wages therein for more than six months, other than officials, stockholders and superintendents, in proportion to their wages earned, and one part thereof shall be paid to the stockholders in proportion to their stockholdings, in addition to said dividend."

Another section of the charter provides that for the purpose of navigation the United States shall regulate the use of the canals and operate the locks, which shall at all times be under the control and direction of the Secretary of War. The corporation would be vested with the power of eminent domain, and the rights of corporations now securing water from Niagara Falls and of persons and companies entitled to the use of streams in the Adirondacks and the Catskills would be protected by the delivery to them of electric energy corresponding to the amounts which they may now be developing, or to which they may be entitled at the time the proposed charter is granted.

The charter will be presented to Congress, Mr. Bowen says, immediately upon the convening of the next session.

COLORADO FREIGHT RATES

Abrogation of increased freight rates, which threaten to cause the abandonment of many metal mines in Colorado, is sought by a committee appointed by the Colorado Metal Mining Association. The committee consists of former Governor Jesse F. McDonald, Leadville; M. A. Kuryla, Eureka; George E. Collins, manager of the Mary Murphy Gold Mining Co.; Timothy O'Conner of Boulder county; W. A. Passmore of Clear Creek county; George H. Stahl, manager of the Vindicator Gold Mining Co., and J. Courtellini of Leadville. Bulkeley Wells of Denver and George M. Taylor of Colorado Springs were named on a committee to co-operate with those interested in readjusting relations with the management of the Colorado School of Mines. The committee was authorized to add three others.

STANDARD GETS CONTRACT

The Standard Oil Co. of California was awarded the contract on September 23 for supplying oil requirements of Shipping Board vessels at Pacific Coast ports and Honolulu, deliveries to commence October 24 and continue one year. The total estimated requirements amount to 371,716 gallons of the contract value of \$195,808.30.

TAX TOPICS

Nation-wide interest in the Tax Conference to be held in Denver, Col., during the week beginning November 15, in connection with the annual convention of the American Mining Congress, indicates that the session will become one of the most important in the history of Federal taxation of the mining and oil industries.

Only a few formal papers will be presented. The program, this year, introduces round-table discussions, in which operators, engineers and tax authorities from all sections of the country will participate. These discussions will prove particularly valuable to those now confronted with the difficulties of arriving at satisfactory settlements with Federal and State authorities.

THE MINING CONGRESS JOURNAL is now warranted in announcing that among the probable participants in the Tax Conference will be J. C. Dick, Chief of the Subdivision of Natural Resources of the Bureau of Internal Revenue, Robert N. Miller, former Solicitor of Internal Revenue, and others of prominence.

Paul Armitage of New York has been appointed chairman of the Tax Committee which will direct the activities of the American Mining Congress Tax Conference. The committee further includes Dr. R. C. Allen, vice-president of the Lake Superior Iron Ore Association, Cleveland; Hon. A. Scott Thompson, Miami, Okla.; George E. Holmes, New York; A. P. Ramstedt, Wallace, Idaho; John C. Howard, Salt Lake City, and E. L. Doeheny, Los Angeles Cal.

The Allied Tax Committee, appointed by the National Tax Conference in Chicago last April as a result of the joint efforts of the American Petroleum Institute, the National Industrial Conference Board and the American Mining Congress, will make its report to the Second National Industrial Tax Conference at the Hotel Astor, New York, October 22-23, 1920.

The committee has had constant contact with business conditions throughout the

country. In further view of the fact that its deliberations have been attended by the best thought and advice of some of the most prominent tax authorities, the report, which will be quite voluminous, is certain to attract widespread interest. It will form the basis for a general recommendation to Congress at the next session.

Mutually satisfactory settlement of every tax case in the Bureau of Internal Revenue would be a Utopian achievement that is impossible under complex laws, but the American Mining Congress and the taxpayers who have visited the industrial units of the Bureau have been impressed with the fair-minded attitude of the authorities in dealing with the vexatious problems of mine taxation. Assessments which result in exceptional hardships are usually due entirely to specific demands of the law which permit no exercise of discretion. Many of the administrative regulations and much of the departmental procedure give opportunities for the determination of absolute equity, although the burden of appeal and proof necessarily devolve upon the taxpayer.

The latter fact is one among several that impelled the American Mining Congress to establish a special Tax Division, which is now successfully functioning. Considerable assistance has been given to mining companies in presenting their problems to the Bureau, and correspondence is particularly invited from all officials struggling with the difficulties of valuation and computation of depletion.

Maintenance of the United States now demands five billion dollars per year - collected by the Bureau of Internal Revenue.

Collection of five billion dollars, largely self-assessed, inevitably means uncertainty and economic stress in the process under any tax law. The present code provokes genuine confusion that can only be ameliorated by co-operation between the taxpayer and the Government.

The American Mining Congress, acting as an unofficial intermediary, is striving to be of aid, both to the taxpayer and the Revenue Bureau, in solving the peculiar problems that inherently attach to the mineral industry.



By C. H. FARRELL.

Figures so far available at the Car Service Division of the American Railroad Association indicate that the carriers are gradually getting to where they will be able to handle traffic as was done in normal days. During August more revenue freight was loaded than during any previous August for which figures are available, the record being even larger than that of August during either of the war years. During the first part of September the indications were that traffic was falling off from the high peak of August, but it was about normal as compared with September of 1919 and 1918. The greatest worry the carriers face now is caused by the handling of the grain crop, and if business continues to decrease slightly it will be of material assistance to the railroads in getting the grain to the markets. For the week ending September 17 the accumulation on hand was 47,438 cars, as compared with 105,000 cars on March 1, when the Government ceased to operate the railroads. During April, when the outlaw strikes were at their height, the accumulation was 288,000 cars. It is quite evident that the carriers are making rapid progress and that the accumulation now on hand is about normal, half the number of cars in question being those loaded with export commodities awaiting vessels at the ports. The car shortage as of September 8 was 104,790 cars, which is below previous figures. In July of this year the carriers set as their goal the moving of cars 30 miles

per day with an average load of 30 tons per car. The latest figures available show that the cars are moving at the rate of about 26 miles per day and carrying an average load of 29 tons per car. Many of the carriers are loading and moving freight at the desired speed and load.

State Versus Interstate Rates.

The Commission's decision in increased rates has brought about a situation which will develop considerable interest and probably have a strong political bearing. The carriers filed with various State railroad and public utility commissions applications for authority to increase rates on the same basis as the Interstate Commerce Commission had allowed for interstate traffic. In nine different instances the State commissions have refused to allow the carriers to make advances in intrastate rates, and consequently the Commission has entered into separate investigations as to the situation in each one of these States. The rule laid down by the Supreme Court in the Shreveport case has been incorporated into and reinforced by the Transportation Act, and it will be the Commission's mission to determine whether or not the action of the State commissions in refusing these increases does, as a matter of fact, bring about an undue burden on interstate commerce. It is quite probable that the State commissions and their numerous followers will fight quite strenuously any attempt on the part of the Commission to regulate intrastate rates.

Labor.

The Commission is again considering the term "subordinate official" included in the

Transportation Act, with a view of deciding what classes of employees are included in that section of the law, and decision will also be made as to whether or not the regulations governing the making and offering of nominations for appointments as members of the labor group of the United States Railroad Labor Board shall, as a result of any modification that may be made in the list of subordinate officials, be modified or supplemented.

Loans.

From time to time announcement has been made of various loans made by the Government through the Interstate Commerce Commission to carriers out of the revolving fund provided in the Transportation Act. It is understood that certificates have already been issued for about one-third of the fund, but the Treasury Department has declined in nearly each instance to pay the amounts certified by the Commission because of a question as to what is meant by the law where it says "and that the applicant in the opinion of the Commission is unable to provide itself with the funds necessary for the aforesaid purposes from other sources." The Commission is considering the meaning of this language, and it is generally thought that the view which will prevail ultimately is that the Treasury Department is not authorized by the law to go back of the Commission's certificate, the matter of the applicant's inability to obtain money being one for the Commission's discretion. Some of the larger loans recently announced are: Erie Railroad Co., \$8,000,000; Seaboard Air Line, \$6,073,400; Terminal Railroad Association of St. Louis, \$896,925; Western Maryland Railway, \$1,372,800; Maine Central Railroad, \$653,000; Virginian Railway, \$2,000,000; Ann Arbor Railroad, \$250,000. In each instance the carrier has been required by the Commission to raise an amount privately as large or larger than the amount loaned by the Commission.

Car Service.

The coal situation throughout the country seems to be easing somewhat, and the order requiring priority to Tidewater for New England coal has been cancelled by the Commission. The order requiring priority to the Great Lakes is still in effect, but as navigation closes in the near future this order will automatically cease. The Commission, how-

ever, has renewed its orders regarding special handling of open-top equipment and the preference in loading coal for public utilities, etc. These orders now stand continued indefinitely from September 19. A new order has been issued, effective October 1, requiring the carriers to treat all cars placed for railroad fuel as assigned cars and not to assign such cars for their own fuel and fail to count them against the mine's distributive share unless the entire output of such mine is taken by the carrier in question for a period of not less than six consecutive months.

Open Top Storage Charges.

The Commission granted authority to the carriers to publish in their tariffs emergency penalty storage charges for detention of all open top cars and all cars loaded with coal or coke. Several of the carriers authorized the publication of a storage charge of \$10 per car per day, and this publication, after being made by J. E. Fairbanks, agent for the carriers, was suspended by the Commission until it could investigate the reasonableness thereof. Meanwhile other carriers individually did file a similar penalty tariff, and these tariffs, in many instances, were allowed to go into effect and remained in effect for a short time until the carriers had an opportunity to cancel them out. It is thus evident that many carriers were obliged to collect this penalty charge, while others were prevented from collecting it by the Commission's suspension. In order to relieve that situation the Commission has now authorized all carriers who collected this charge to refund it to the shippers.

Express Rates.

The Commission considered the general needs of the American Railway Express Co., and, following the railroad advance, allowed the express companies an increase. Shortly thereafter the Railroad Labor Board awarded a substantial increase to the employees of the express companies, and a request was made of the Commission for an additional 15 per cent. increase in rates. The Commission has decided to allow the express company an additional 13.5 per cent. to take care of this advance in wages, making a total increase in express rates of 26 per cent.

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Bulkeley Wells, President.
Harry L. Day, First Vice-President.
Daniel B. Wentz, Second Vice-President.
E. L. Doheny, Third Vice-President.
J. F. Callbreath, Secretary.

DIRECTORS:

Bulkeley Wells, Denver, Col.
Daniel B. Wentz, Philadelphia, Pa.
John C. Howard, Salt Lake City, Utah.
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E. P. Matthewson, New York.

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METALS, OIL, COAL BUSINESS

REVIEWED BY U. S. CHAMBER

Business in the metal lines and oil trade is good, and promises to continue satisfactory, along with activities in other branches of American industry, according to the monthly report of the Committee on Statistics and Standards of the United States Chamber of Commerce, made public at the end of September.

The report contains the following:

"In Wyoming and California the oil business is good, and it varies from fair to good throughout the entire country. Prices are high, production still keeps up, and there is a world-wide demand which seems difficult to

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

OF THE MINING CONGRESS JOURNAL, published monthly at Washington, D. C., for October 1, 1920.
City of Washington, {
District of Columbia, { REG.

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared E. Russell Coombes, who, having been duly sworn according to law, deposes and says that she is the business manager of THE MINING CONGRESS JOURNAL, and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 413, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

Name of Publisher—The American Mining Congress.

Postoffice address—Washington, D. C.

Officers:

Bulkeley Wells, President, Denver, Colo.
Harry L. Day, First Vice-President, Wallace, Idaho.

Daniel B. Wentz, Second Vice-President, Philadelphia, Pa.

E. L. Doheny, Third Vice President, Los Angeles, California.

J. F. Callbreath, Secretary.

Editor—T. R. Moss.

Business Manager—E. Russell Coombes.

2. That the owners are (give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent, or more of the total amount of stock): The American Mining Congress—a corporation, not for profit. No stockholders.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent, or more of total amount of bonds, mortgages, or other securities are (if there are none, so state): None.

E. RUSSELL COOMBES,

Business Manager.

Sworn to and subscribed before me this 25th day of September, 1920.

(Seal.)

THOMAS C. WILLES.

(My commission expires February 20, 1922.)

satisfy. The only fly in the ointment is the absence of 'wildcatting' because of contraction of credit by the banks, with consequent slump in the demand for those commodities and supplies which this form of development and adventure demands. This is felt particularly in Texas, where wildcatting was the most engaging of pursuits, with all sorts of possibilities in both directions.

"Coal mining in the great plains States is in its usual condition of few days (of work) and full of troubles. In some localities it is better where mines have resumed operations. But too often there is the wearisome story of constant and apparently unnecessary strikes. Meanwhile, iron mining in Michigan and Wisconsin is well employed. The Central West, between the Ohio River and the Great Lakes, the Mississippi River and the Alleghenies, is in most excellent shape on the whole.

ARIZONA CHAPTER MEETS.

Mine managers from all over Arizona gathered in Tucson on September 13 for the annual meeting of the Arizona Chapter of the American Mining Congress, according to the report printed by the Tucson *Citizen*. The sessions were executive, and were held at the Santa Rita Hotel.

The following were in attendance: Norman Carmichael, governor of the Arizona Chapter, and general manager of the Arizona Copper Co., Clifton; J. E. Curry of Warren, secretary of the Arizona Chapter of the American Mining Congress; P. G. Beckett of Douglas, general manager of the Phelps-Dodge Corporation; Louis S. Cates, general manager of the Utah Copper Co., Salt Lake City; Capt. J. P. Hodgson, former governor of the Arizona Chapter, now general manager of the Morenci Branch, Phelps-Dodge Corporation; W. G. McBride of Globe, general manager of the Old Dominion Mining Co.; F. A. Woodward of Globe, general manager of the Iron Cap Copper Co.; Robert Tally of Jerome, general manager of the Consolidated Arizona Smelting & Refining Co., Humboldt; T. H. O'Brien, general manager of the Inspiration Consolidated Copper Co.; Col. John C. Greenway of Warren, general manager of the C. & A. Mining Co.; W. F. McClellan, general manager of the Miami Copper Co.; Harry A. Clark of Douglas, superintendent of the C. & A. Smelter; Julius Kruttschnitt, Jr., of Tucson, southwestern representative of the American Smelting & Refining Co.; Col. Stout of Douglas, general manager of the Copper Queen Smelter; Michael Curley of Ajo, general manager of New Cornelia Copper Co.; W. S. Boyd of Ray, general manager of the Ray Consolidated Copper Co.; W. C. Browning of Superior, general manager of Magna Copper Co. and Patagonia Superior Copper Co.; Dr. L. D. Ricketts of Warren, geologist and consulting engineer; T. Evans, general manager of the Cananea Copper Co., Cananea, and T. McGrath, auditor for Denn Arizona and Shattuck Arizona, Bisbee.

BENSON ASKS SUPPORT FOR U. S. INSURANCE SYNDICATES

Disappointed at the character of support given by owners of American merchant vessels to recently organized American marine insurance syndicates, Chairman Benson of the Shipping Board has appealed to them to adopt a more friendly attitude. He characterizes the prevailing American attitude as thoughtless, and asks that preference be shown the American companies.

GLOBE-MIAMI DISTRICT WILL GIVE SAFETY-FIRST PROGRAM

A Safety-First program will be given at Globe, Ariz., during the week of October 10-16 by the Globe-Miami District Mine Rescue and First Aid Association, of which Orr Woodburn is director. The event has been extensively advertised. The program will include the issuance of proclamations by the mayors of all cities within the district; four-minute talks by teachers to the pupils of all schools within the district; four-minute talks in the theaters and to the men working in the mines; public addresses by capable speakers; safety first displays in store windows; competitive essays by school children, and the display of safety-first placards all over the district. The United States Bureau of Mines will co-operate by sending a mine rescue car to Globe for the week.

The committee in charge consists of: P. L. Marston, International Smelting Co.; G. H. Ruggles, Inspiration concentrator; R. T. Murrill, Inspiration mine; A. J. Davey, Miami Copper Co.; Albert Tallon, Old Dominion Co. mine; E. G. Deane, Superior & Boston Copper Co.; C. E. Lees, Iron Cap Copper Co.; W. G. Finch, Iron Cap Copper Co.; C. L. Conway, Arizona Commercial Mining Co., and Orr Woodburn, chairman, mine rescue station.

OWNERSHIP OF BOLIVIAN TIN MINES PASSES TO AMERICANS

Guggenheim interests have acquired a group of tin mines in the Province of Inquisivi, Department of La Paz, Bolivia, and are now making elaborate preparations for their development, according to the report of Trade Commissioner W. L. Schurz. Among other improvements contemplated is the installation of a smelter plant at the mines. The practicability of electric smelters is one of the important factors being considered.

To July 1 six mines had been acquired—the Pacuni, Huanchaca, Caracoles, Bengala, Salvador and Bonaparte. The first three form a single group and the latter three are situated several miles away. All are situated high in the Andes, the Caracoles mines being 18,000 feet above sea level. Titles have been secured to about 5800 hectares, and petitions have been filed for about 3000 additional hectares.



The question of whether industry shall favor the closed or open shop is a question that is being widely discussed. In advocating the open-shop movement, **W. W. Atterbury**, vice-president of the Pennsylvania Railroad, said:

"Labor broke faith with capital during the war and so unionized industry that the closed shop has become a national menace.

"Before the war the Pennsylvania Railroad was organized for train service only, and at present the entire system is labor-ruled by the closed shop in its most virulent form. The closed shop is involved, and that means the nationalization of one of the great industries of this country, and this the country cannot afford if it wants low rates, efficient service and efficient operation. It will only be a question of time when the same attack will be made on every other industry in this country.

"In accordance with pre-war agreement the Pennsylvania Railroad held to the agreement not to institute any aggressive campaign, an agreement which labor flagrantly violated. Threatened strikes in order to force railroads to accept national agreements were common, and were only one of several forms of pressure brought to bear by labor organizations. An economic strike will be used to force the acceptance of labor demands unless decisive action is taken."

Along this same line, "Industrial Democracy," is a question of relative importance. There is a wide difference of opinion as to the meaning of industrial democracy. The vital question, of course, is its practicability. **R. L. Clausen** of Deere & Co., Moline, Ill., at a recent convention of the National Metal Trades' Association, expressed

some interesting views upon this important subject, which have been reprinted by "The Employer." Mr. Clausen says:

"We have heard a great deal in the last year and a half of 'new freedom' and the 'new era,' about industrial democracy. An implication has been spread over the country that because we have had a world war all previous industrial relations are, in some manner, wrong; that we must change them; that our social fabric and our institutions are wrong and must be reversed; that we must discard the known and enter into the untried and the unknown; in some vague way we must reverse everything, and in some way outside of himself the worker should get more and do less.

"Now, what are the facts? What is wrong? What does collective bargaining and shop representation gain? Why not continue to advance as we have been advancing industrially for the last fifty or one hundred years? Theory, no matter what it may be, cannot supplant the economic law. Human nature, our best educators and thinkers tell us, does not change. If this is a fact, is it not wise to hold fast to the known and experiment very carefully with the unknown? Nature wrote the first constitution, and so far as we know there is no one yet who has been able to violate it with impunity. The only way to meet discontent is to direct it into hopeful channels. Labor and not capital supplies the managers of industry. There are two ways open to the workman of today: he can save his money and become a capitalist, or he can study and learn and become a manager; those two ways in this century are open to everybody.

"It has been said in the past and is now claimed by many people that collective action has been responsible for the advance of the working man, for the improvement of his condition. I would

like to take the opposite position on that point. It is not high wages or the other concessions of one kind or another that have improved the condition of the workman; the thing that improves his condition is the invention and introduction and development of high-class machinery and the introduction and use of power—horse-power, steam power or electric power in place of man-power. The collective action of employes, wherever it may have been installed, has actually acted as a brake upon the progress of American industry because it restricted the output of goods and increased the cost of production. Collective bargaining and shop representation is entirely in line with the movement and spirit that has been extending through the country in the direction of direct government; that is, the referendum and recall, the socialism of industry, the government ownership of railroads, and a great many other things that are being propounded and advocated, even by men who ought to know better. This country has the greatest per capita wealth of any country in the world; the people are better off; they have more of those things which they want or think they want; they have one automobile for every six people in Iowa today, and there is going to be one for every four later on. We have reached this standard by maintaining individual initiative and individual bargaining in industry. It is my belief that if you are going to try to do something for the workman, you ought to pick out first the kind of a man you are going to do something for; you ought to pick out a good citizen, and then don't do anything for him, but help him to do something for himself. We have too much of this doing for men in this country.

"What the workmen in this country want is recognition of the individual, not mass recognition. Collective bargaining and shop representation is nothing more than mass recognition, and it is not going to satisfy the man. What he wants is individual recognition, and there is only one way to get it, and that is to do business with men individually. Do not forget that 97 per cent. of all institutions in this country have less than 250 men; certainly no one will surely propose shop representation or collective bargaining where the owner and manager can know every man by his first name. I think that even in the large shop you are not going to satisfy the man by mass recognition; he wants recognition of the individual; he wants to feel that he is a human thinking individual entity; he does not want somebody else making his bargain for him, and you cannot promote the spirit of individual ambition or

individual initiative or maintain the progress of the country and keep this country by such mass recognition."

The repudiation by the anthracite mine-workers of the award of President Wilson's Arbitration Commission after they had agreed to be bound by its decision has called forth condemnation from the public at large. President **E. E. Loomis** of the Lehigh Valley Coal Co., commenting upon this situation, said:

"This action emphasizes the futility of collective bargaining with unions about which there has been so much talk. It is one more demonstration—and we have had a number recently—of labor not making contracts in good faith, and of leaders who do not lead, but trail. We are constantly being urged to put our whole faith in the unions, give them the closed shop, etc., and then we are treated to such outrageous violations of agreements as in the present instance."

The question of how we shall reduce taxation and at the same time meet the enormous obligations of this country on account of the World War is being met with helpful suggestions from the thoughtful people of the nation.

J. W. Harriman, president of the Harriman National Bank, in a recent issue in *Magazine of Wall Street*, says:

"The Great War left us a debt of approximately \$26,000,000,000. Sixteen of these we used up in our own efforts toward winning it, and about \$10,000,000,000 on account of the advance to our Allies for the same purpose. This latter is represented by ambassadors' notes without maturity and carries interest at 5 per cent. This interest item has recently dragged and been added to the principal until the accumulation is now about equal to the amount limited by act of Congress. The interest for this Allied debt of \$10,000,000,000 was raised through taxation. When the armistice came many of the taxpayers began to look forward to a reduction in taxes. The ambassadors' notes, however, still remain dormant—without maturity—in the archives of our Treasury Department. Moreover, no interest has been paid by our Allies to offset the interest which has to be met on the bonds that were issued for the purpose of assisting them in their crisis.

Our taxation has increased with but little promise of reduction. A conference should be called and a suggestion made to those countries that their debt be funded and, in lieu of the ambassadors' notes, a joint obligation be given us covering a period of years and drawing an attractive rate of interest. The obligation thus agreed upon and endorsed by the United States could then be exchanged for the outstanding Liberty and Victory bonds and offered to the American investing public bearing a higher rate of interest than these. The condition of the Federal Banks today shows a congestion due largely to these Liberty bonds being lodged with the banks by the member banks. The liquidation of this congestion and a consequent improvement in the Federal Banks' condition would bring about a release of credits, which would have a most healthy effect on our commercial and mercantile enterprises. And the making a live asset of the ambassadors' notes by the substitution for them of a new joint Allied obligation would, through the interest the new obligation would bear, offset a like amount of interest which the taxpayers have had to pay, and correspondingly reduce taxes for a like amount, or upon almost half of our war debt."

Along the same line, **E. J. McCone** of the Buffalo *Commercial* made a statement before the Rotary Club of New York on the subject of "The Closed Shop Press," saying that:

"Organized labor has exercised a strict censorship over the American press since July 1, 1917. I am prepared to subscribe \$10,000 to the disabled soldiers' fund if anybody present at the luncheon will point out an American newspaper that has editorially commended the open shop and opposed the closed shop since July 1, 1917. I have not an exaggerated opinion of my own importance nor the importance of the question in hand, but Samuel Gompers, president of the A. F. of L., has characterized my work by saying: 'All of the McCones this side of hell will never take the closed shop away from organized labor.' I believe that the reason that the Senate Sub-Committee refused to act upon the charges made was that this is a campaign year, and neither party can afford to take chances, but I believe that Senate investigations will be forthcoming next year."

C. Wilbur Miller, president of the Davison Chemical Co. of Baltimore, in

a reply to Mr. Gompers' attack on the United States Chamber of Commerce for advocating the open shop, refuses to admit that Mr. Gompers or the American Federation of Labor represents the majority of American workers, and contends that the workers in the majority are, in reality, for the open shop.

"Mr. Gompers assumes, first, that he, as president of the American Federation of Labor, represents and speaks for the workmen of the United States, and, second, that all employers are only thinking of themselves in approaching questions relating to labor. There is not the slightest foundation for either assumption. The American public knows that the Federation represents only a small majority of the workmen, and many of this number are aliens without the suffrage.

"Some months ago a committee of men from one of the plants I represent came to me with the complaint that the American Federation of Labor was turning the public against the workman, and that they felt it was time for the employers of non-union labor to defend them and act as their spokesman. I sought their reasons for opposition to the union, which were that they strongly objected to the tyranny and selfishness of the labor union leaders. They objected to being put upon the same level of less efficient or more indolent men. They were indignant at the strife and hard feeling being stirred up between employer and employe and the general branding of the employer as a scoundrel and discredited person. They knew most employers were once laboring men and they hoped to be themselves or were educating their children to be employers and had no intention of tearing down their goal. They felt the contact with the employer direct was more satisfactory and brought quicker and better results than through a medium which considered its own ends first and the men second, that men out of the union got better wages and were much more contented.

"The majority of workmen, the majority of employers, the majority of salaried men, the majority of professional men, and, I believe, the majority of union laboring men, if they speak their minds, believe in the open shop."

Soviet Russia took the lead in demonstrating to the world how futile the Bolshevik plan of control is. Italy now comes to the front with as periti-

nent an example. The **New York Evening Mail**, in an editorial upon the Bolshevik's seizure of a large number of factories in Italy, has the following to say:

"One of the spots where the Bolshevik shoe pinches the hardest is revealed by the news from Italy that the workmen who have seized a large number of factories with the intention of running them on Bolshevik lines have had to kidnap experts and imprison them in the works to keep them going.

"It has taken the would-be Bolsheviks of Italy only a few days to discover that it takes something more than muscles to carry on organized industry or productive industry of any sort. Like their brothers of Russia, they inaugurated their campaign of workmen's control of industrial establishments on the gay assumption that the workmen would furnish all the expert talent that would be needed.

"The shrinkage in production and employment by 30 per cent. in a few days has shown these queer 'idealists' that an industry must have managers, and that the workers cannot supply that need from their own ranks. But as the experts declined to return to the factories voluntarily, the embryo 'Reds' have resorted to the method of abducting the managers and making them manage, willy-nilly.

"The desperate hunt for experts by the Italian seizers of private property constitutes an important confession of the essential weakness of the entire Bolshevik industrial and political theory.

"And yet thousands of American workmen, presumably more enlightened and certainly far better treated than their brothers of Italy and of Russia, have plainly revealed similar short-sightedness and fatuity.

"In attempting to dictate to managers just how they shall manage and to dictate in defiance of all economic laws—the radicals in the ranks of American labor are marching on the path that has led to failure and disaster in both Italy and Russia.

"There is little difference between the Italian process of kidnapping a manager and making him manage and the radical Americans' method of tying a manager's hands by all sorts of restrictions and still expecting him to manage."

In these days of pessimistic expression it is good to occasionally find a man who sees the light and is not afraid to point it out. **James J. Phelan** of

Boston has an optimistic view of the present situation and says:

"Evidences are accumulating fast that we have seen the worst of the money situation, and that within 30 to 60 days considerable money on time will be obtainable. Of course, rates won't go off much on time money for perhaps several months, with the picking up of general business all over the country, and the signs are that this has already started. Commercial demands will increase, but not, in my opinion, to the extent that they would absorb all that will be seeking employment after the crop-moving period has passed.

"I know it isn't fashionable to say so just now, but personally, I am looking forward to a big business in this country next year. If my conclusion in this respect is going to prove correct, I would naturally expect the stock market to begin discounting it to some extent before many weeks.

"Generally speaking, I think the security market as a whole, especially investments, has about seen bottom for a long time to come."

Guy Morrison Walker, in a letter to the *Wall Street Journal*, protests against the attitude of the newspapers of the country concerning the railroad question. He has written the *Journal* protesting vigorously against its statement that private ownership and operation of railroads is on trial. He says:

"There is private ownership because the Government cannot buy and the politicians dare not confiscate, but there is not even a semblance of private operation. You have compelled the owners of the railroads to deal with bandit labor unions; you have forced them to pay wages that bear no relation whatever to value of the services rendered, or current wages in other lines. You deny to the owners and operators the right to charge what railroad service costs under these blackmailing conditions and then pretend that railroad credit has been destroyed by the crimes and mismanagement of the private owners.

"The truth is that you are unwilling to let the private owners show what they can do by private operation, because if they had a chance they would show up the whole bunch of lawmakers, reformers and pseudo-economists by furnishing such excellent service at about half the

present cost that all these demagogues would lose their jobs and their standing forever.

"What the railroads of the United States need is not an increase in rates, but relief from regulation by the ignorant, incompetent and irresponsible. Restrictive legislation is what has ruined our railroad systems and destroyed the efficiency that formerly prevailed in the transportation business.

"How can you pretend there is private operation of railroads when one Government commission imposes the wage scale on the railroads regardless of whether they can afford to pay it, and another Government commission regulates their rates and denies them the right to charge what the service costs, and then appropriate from other Government revenues raised by general taxation a sum sufficient to make up the deficit and to guarantee a certain percentage of income on the capital investment in railroads?

"When the Government assumes or guarantees such a return on their investment to the owners and operators of a property, it relieves them of all responsibility for successful or economical operation, and, what is more serious, it robs the operators and owners of all incentive for careful and economical operation.

"It is useless to pretend that the railroad situation can ever be better or restored to efficiency until the whole present system is repudiated and thrown over and we have really private ownership on an economic basis.

"The recent raise in rates will cause an additional falling off in revenue traffic as did the previous raise in rates, while in the face of rising transportation costs the business of the country is bound to go backwards and languish.

"The only hope for returning prosperity lies in release from regulation, the return to economic operation and the steady reduction of railroad rates."

REDUCTION SHOWN IN 1919

GOLD AND SILVER OUTPUT

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The Bureau of Mines has entered into a co-operative agreement with the Wellsbach Company to study various alloys, particularly those containing cerium. The co-operative agreement with the Vanadium Corporation, which also covers work on alloys, is proceeding.

State or Territory.	Gold		Silver	
	Fine ounces.	Value.	Fine ounces.	Value.
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California	841,638	17,398,200	1,153,614	1,293,051
Colorado	495,810	10,249,300	5,966,606	6,687,790
Georgia	34	700	8	9
Idaho	34,085	704,600	5,933,076	6,650,207
Illinois .....	.....	.....	6,000	6,725
Maine	10	200	4,142	4,643
Michigan .....	.....	.....	425,610	477,054
Missouri	14	300	75,991	85,176
Montana	116,918	2,416,900	15,012,258	16,826,790
Nevada	225,384	4,659,100	7,045,395	7,896,972
New Mexico.....	28,319	585,400	851,821	954,781
North Carolina.....	5	100	19	21
Oregon	53,029	1,096,200	236,620	265,220
Philippine Islands.....	41,119	850,000	15,715	17,614
South Carolina.....	5	100	2	2
South Dakota.....	275,880	5,289,700	122,608	136,822
Tennessee	271	5,600	97,554	109,345
Texas	19	400	539,483	604,690
Utah	169,661	2,266,900	12,542,623	14,058,650
Vermont	19	400	2,200	2,466
Virginia	8	9
Washington	11,436	236,400	258,270	289,487
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Totals.....	2,918,628	\$60,333,400	56,682,445	\$63,533,652

OIL AND GAS PERMITS

The following permits to prospect for oil and gas were issued by the General Land Office during September (figures indicate number of acres):

Alaska.

Juneau District.—Alaska Oil Co., 2560; Edwin Wentworth, 2560; Edwin Wentworth, 2560; Earl C. Simmons, 1600. (All in the Cold Bay District, Alaska Peninsula.)

Arizona.

Phoenix District.—Clayton C. Brooks, 1280; R. S. Reed, 1280; Edward Rucker, 2560; E. S. Wiatt, 2560; Albert M. Kring, 2560; R. L. Keith, 2560; Ben W. McCloskey, 2560; George J. Meiklejohn, 2560; Charles F. Edeler and George F. Felts, 2560; Forrest Bradfield and Heber A. Stewart, 2560; J. B. McNoughton, 2560; Charles A. Hayes, 2560; Charles S. Osborne, 2560.

California.

Visalia District.—Alden Eckles, 160; H. Widner, 320; E. D. Butts, 320; Eddystone Oil Corporation, 2640; Charles Britt, 160; Ellis Mallery, 640; J. H. Thornbur, 640; H. A. Kenney, 480.

El Centro District.—F. B. Ford and four others, 2560; C. C. Riggins, 640; S. A. Peel, 640; C. Satterwhite, 1280; H. I. Reynolds, 2560.

Independence District.—Percy C. Heron, 1280.

San Francisco District.—Leon E. Norris, 2400.

Los Angeles District.—Charles A. Purke, 480; Fred H. Coble, 1120; Alice G. Howell, 640; Cyrenius T. Farmilee, 640; J. Doan Carey, 640; Julia Taylor, 160; Chester S. Van Brundt, 160; Constance V. I. Perry, 1920; Elizabeth Jackson, 1120; Louis C. Masten, 320; Thomas Kennedy, 960; Herbert S. Adair, 2560; Horace L. Brady, 600; C. A. Barlow, 120; E. B. Hawley, 1960; C. O. Barker, 1760; L. F. Flormann, 1280; L. M. Ryan, 160; C. D. Hamilton, 480; A. V. Hartley, 160; C. D. Hauverman, 640; Kern County Land Co., 320; J. S. Law and C. O. Reid, 1280; D. B. Harris, 40; J. R. McCarthy, 160; Andrew Innes, 480; Cajon Oil & Gas Co., 2560; Daniel C. Kidder, 640; Robert Smart, 2560; Constantine M. Mooslin, 2240.

Colorado.

Pueblo District.—Otero Oil & Development Co., 2560; Nathaniel W. McConnell, 400; Mutual Oil & Development Co., 2400.

Durango District.—Arthur Eaton, 2400.

Idaho.

Boise District.—C. U. Albin, 320.

Hailey District.—G. C. Bremer, 320; P. E. Watkins, 1280; H. C. Bowles, 1400; J. R. Fitzsimmons, 160; E. Drussel and two others, 200; G. C. Brewer, 320; Ida H. Angel, 1155;

H. F. Crutcheley, 1280; P. E. Watkins, 1280; W. J. Speckman, 1440; J. Peterson and three others, 2240; W. B. Silver, 2240; Clifton M. Perkins, 800; David L. McClung, 1200; Oasis Oil Co., 2560.

Louisiana.

Baton Rouge District.—W. R. Hollingsworth, 160; C. W. Hollingsworth, 160; Clyde Farr, 223.

Montana.

Great Falls District.—E. Paul Wymond, 480; J. R. Villars, 280; Vir Willson, 560; Harold Campbell, 1160; Otto Huber, 145; W. J. Hoague, 360.

Lewistown District.—Harrison Green, 320; S. S. Ford, 960; R. J. Gobban, 2080; A. M. Weirick, 480; Little Bear Petroleum Association, 160; U. T. Campbell, 600; Julian A. Suttler, 320; Oiltana Petroleum Association No. 1, 320; Great American Oil & Gas Co., 80; Jester Gandler, 200; Ernest W. Bean, 240; Rex Elder Dome Petroleum Association, 40 and 92 (two permits).

Billings District.—Earle B. Patten, 960.

Glasgow District.—A. Foster and J. E. Forbes, 320; F. R. Miller, 211; D. J. Clifford, 480 and 480 (two permits).

Miles City District.—Sherman Hunt, 1440; R. J. Butt, 640; A. M. Brockway, 120; J. Rowland, 1800.

Nevada.

Carson City District.—Thomas A. Massey, 1920; Melvin A. Griffin, 1920; H. U. Nelson, 1280; Crescent Oil Co., 640; Warren E. Lee, 2560; George H. Noakes and others, 160; C. J. Corvin, 1280; E. G. Pearson, 1280; James Pirton, 320; Martha Wilson, 2560; Fannie Wilson, 320; J. P. Branley, 320; Consolidated Oil & Potash Co., 320; Fallon Petroleum Oil Co., 640; E. B. Buckwalter, 1280; A. S. Proskew, 1280; P. A. Cassus, 1280; W. B. Exline, 1280; Joe York, 1280; Calivada Oil Co., 1280; L. L. Moody, 1440; T. J. D. Salter, 1760; H. C. Power, 2560; E. W. Robinson, 2560; D. J. Kinney, 2560; J. H. Yetter, 2560; Fallon Modco Oil Co., 2560; W. E. Turley, 2560; J. E. Houser, 2560; C. B. Burr, 640; T. J. D. Satler, 1760; H. U. McNeil, 2560; J. E. Houser, 2560; Bernard Cox, 2560; D. D. Besse, 1280; Norman Merchant, 320; Louis O. Cannon, 1280; Robert O. Weed, 1280; J. M. Rice, 2560.

Elko District.—Elko Oil Corporation, 2575 and 2560 (two permits); J. S. Gurney, 2560 and 2560 (two permits).

New Mexico.

Roswell District.—Martin Yates, Jr., and J. D. Atwood, 2560; Bryan McWhorter, 2560; E. W. Dolson, 2560; C. D. Bonney, 2560; L. B. Craig, 1680; Mary E. Yates and A. H. Rockefeller, 2560; National Exploration Co., 2560.

Fort Sumner District.—Fred I. Phelps,

2560; E. P. Arranet, 2560; Benlah Crow, 800; R. A. Archuleta, 2560.

Las Cruces District.—F. A. Hawley, 2560; R. T. Harding, 2560; F. F. Wilcox, 2240; W. H. Loutz, 2240; J. N. Atkinson, 2560; J. S. McClure, 1840; J. N. Bean, 1440; N. S. Dawson, 1920; G. P. Loomis, 1360; C. R. Rottke, 2560; H. P. Demand, 2560; Robert L. Howze, 2560; W. B. Zimmerman, 2560; Ramon Montinjo, 1920; A. H. Loomis, 2560; C. T. Guy, 2560; N. C. Smith, 2200; F. N. Koester, 2560; H. V. Cogswell, 2560; U. N. Peirce, 2560; John M. Bowman, 2560; R. H. Struegeon, 2560; Wesley J. White, 2560; S. T. Barnhill, 2560; B. G. Dyne, 2560; J. C. Robbins, Jr., 2560; A. A. King, 2560; Frank Light, 1280; W. T. Cardwell, 1880; R. S. Clemons, 2560; C. O. Burch, 2560; W. A. Nugent, 2560; C. R. Gross, 2560; C. M. Counts, 2560; O. M. Lee, 2560; G. H. Coykendall, 2560; J. H. Grant, 2560; C. H. Unger, 2560; Lewis W. Carl, 1760; C. M. Nebeker, 2560; Paul Thomas, 2560; Francis C. Holloway, 2560; P. M. Rigdon, 2560; Jornada Oil Co., 2560; Wheeler Shropshire, 2560; John L. Dyer, 2560; D. R. Mapel, 2560; P. F. Weisenhorn, 1920.

Sante Fe District.—J. A. Lasater and John C. Herr, 2360 and 2460 (two permits).

Oregon.

Vale District.—John C. Houston, 440.

South Dakota.

Rapid City District.—V. M. Kirk, 40; S. R. Nixon, 160; Arthur Clark, 160.

Utah.

Salt Lake District.—H. N. Pulsley, 960.

Washington.

Yakima District.—S. E. Goodwin, 480.

Wyoming.

Cheyenne District.—N. R. Greenfield, 2400; Seminole Oil Co., 640.

Buffalo District.—H. F. Kennedy, 640; Lloyd U. Wilson, 2560; Arthur U. Stevens and Burt Griggs, 2560; Simon Binswanger, 640; Harry Levin, 1400; Wm. Edgar Downie, 640; Paul Mass, 1749.

Douglas District.—A. R. Stewart, 161; John E. Schuricht, 320; Elizabeth D. Lamb, 320.

Lander District.—E. Brown and three others, 1160; J. D. Younger and one other, 880; Clyde Brown, 480; Clarence A. Green, 2560.

"HISTORICALLY SPEAKING"

Art and sentiment have combined to make "Historically Speaking," issued by the Taylor-Wharton Iron & Steel Co., a notable addition to the commercial literature of America. The book has been issued to commemorate the one hundred and seventy-fifth anniversary

of the making of iron and the twenty-fifth anniversary of the making of manganese steel at Highbridge, N. J., where an appropriate celebration was held on October 13, 1917.

A "veritable record, recast from the mold of time of the Taylor-Wharton Iron & Steel Co.," beginning when Messrs. Allen and Turner, in 1742, started the business and employed Robert Taylor to manage the work for them, is given in the opening chapter by Knox Taylor, incumbent president of the organization. Between Robert Taylor and President Knox Taylor the business was managed by three other generations of Taylors—A. S. Taylor, L. H. Taylor and William J. Taylor. A silhouette of Robert Taylor, and pictures of the succeeding four generations of Taylors, together with a photograph of Vice-President Percival Chrystie, another of the fifth generation, are shown.

One of the striking features of the publication is the insight it gives into the spirit of confidence and co-operation which has always obtained between the management of the company and its employees. Photographs are shown of 35 men who have been in the company's service from 30 to more than 50 years, the line, "Faithful Fulfillment," appearing at the top of each page. One who reads the lines of character and faithfulness, easily seen in their photographs, readily understands why President Knox Taylor, in his address at the celebration, could afford to say:

"We are, so far as I know, the oldest in our line. We are not the biggest—we have never aspired to be. With us it has not been quantity, but rather quality. We are not in the class of the big tonnage corporations; we are in a special class of our own, doing a special business requiring infinite care and detailed attention. Such work as ours is not accomplished by great masses of automatic machinery. We need the individual and intelligent and resourceful worker. We need workers who take individual pride and interest in their jobs and the company as a whole. That's the kind of business we do, and that's the kind of employees we are—men and women both."

Faithfulness being a matter of reciprocity, the reader is not at all surprised to see, as the conclusion of the volume, a reproduction of a magnificent loving-cup, one of which was presented, during the celebration, to T. O. Aller, Adrew Apgar, William Burke and Jacob Struble, each of whom is the first of three generations, all of whom are still employed by the company.

"Historically Speaking" is valuable, not only as the history of an interesting firm, but because of its intrinsic literary worth, and also because of its exposition of the method of solving industrial relations.

NEITHER WORK NOR WELFARE PROMOTED BY CLOSED SHOP

The closed shop neither promotes efficiency nor elevates the character of workmen, according to the decision of a Wisconsin court in the case of *A. J. Monday Company vs. Automobile, etc., Workers of America*, reported in 177 N. W. 867. The law involved in the case was Chapter 211 of the Acts of the Wisconsin Legislature of 1919, patterned after the Clayton Act. It provides that the State anti-trust laws shall not apply to labor unions, and, among other things, that no restraining order shall be issued growing out of disputes "concerning terms or conditions of employment" unless necessary to prevent irreparable property injury.

In the case at issue the automobile employees struck to enforce a closed shop. There was no question of wages or hours involved. An injunction had been issued and the workers moved to vacate the order on the ground that it violated the Wisconsin statute above quoted. In declining to vacate the order the Court said: "It is a strike purely and simply for the closed shop. The closed shop does not aid the members of Local No. 25 to become more skillful or efficient workers, to promote their general welfare, elevate their character, or to regulate their wages, hours or conditions of labor in any except an indirect and remote way."

BUREAU GIVES NEW NAMES TO MINE EXPERIMENT STATIONS

The Bureau of Mines has given new names to several of the mines experiment stations, designating each either by its geographical location or the particular work in which it is engaged. Following is the way they will be known hereafter:

Location.	Name.	Work.
Bartlesville, Okla....	Petroleum	Oil.
Berkeley, Cal.....	Pacific	Chemicals; magnesite; miscellaneous.
Columbus, Ohio.....	Ceramic	Ceramics.
Fairbanks, Alaska....	Alaska	Development of resources of Alaska.
Minneapolis, Minn....	North Central.....	Utilization of low-grade iron ores.
Pittsburgh, Pa.....	Pittsburgh	Mining; largely coal, electro-metallurgy.
Reno, Nevada.....	Rare and Precious Metals..	Rare and precious metals.
Seattle, Wash.....	Northwestern	Ceramics; coal washing; electro-metallurgy.
Salt Lake City, Utah..	Inter-Mountain	Low-grade lead and zinc ores.
Tucson, Ariz.....	Southwestern	Low-grade copper ores.
Urbana, Ill.....	Central District.....	Coal.
Birmingham, Ala....	Southern	Iron and steel; coal; coke; by-products; bi-metallies.
St. Louis, Mo.....	Mississippi Valley.....	Lead and zinc.

THOMAS GOES TO CHICAGO

The Oil News carries the following item of interest to oil men:

"J. Elmer Thomas, the well-known petroleum geologist, has opened an office in 751 First National Bank Building, Chicago. Mr. Thomas was graduated from the geological department of the University of Chicago in 1912, after which he spent a year in mining geology in Mexico. Returning to the United States he entered petroleum geology, to which he had devoted his time ever since except during the war, when he was in the air service. He has been associated with the Chicago Oil Co., Colonel Getty's Minchoma Company, Sinclair and others. For the last fifteen months he has made San Antonio, Tex., his headquarters while investigating conditions and formations in Southwestern Texas. Mr. Thomas was the first president of the American Association of Geologists. He is especially interested in the increasing importance of Chicago as an oil center."

DULL HOME MARKET FORCES SALE OF VESSELS TO EUROPE

The Shipping Board has authorized the sale to foreign persons and transfer to foreign registry of 10 steel steamers of approximately 3700 deadweight tons each, constructed on the Great Lakes by the American Shipbuilding Co. This company built the vessels on its own account, and was unable to interest American purchasers. The vessels will go to France, Norway, Sweden, Holland, Denmark, Belgium, Spain, Italy, Great Britain and its colonies and dependencies. The selling price will approximate \$462,700 for each vessel, or \$171 per deadweight ton.

INDUSTRIAL NOTES

In order to render more efficient service and to obtain close co-operation with their customers in Western New York, the Jeffrey Manufacturing Co. has opened a new branch office in Buffalo at 1108 Marine Trust Building, which will be in charge of Mr. H. W. Scott, formerly of the home office. Mr. Scott has had long and successful experience in sales and engineering work for the company, which especially fits him to take care of the constantly-growing demand for Jeffrey products in his territory and render valuable assistance to clients in handling of problems covering elevating, conveying, crushing, pulverizing, portable loading machinery, etc.

Bulletin No. 2 has just been published by the Lidgerwood Manufacturing Co. This bulletin covers a most complete line of steam hoists for all contracting purposes, such as building construction, steel work hoists, bridge erecting, pile driving, hoists for all types of derrick work, for handling self-filling grab buckets, coal tower hoists, shaft and tunnel work, quarrying and dredging. It is most complete and comprehensive.

A booklet which the Chicago Belting Co. has just issued is an augmented reprint of that section of its new catalogue entitled "Practical Information." So much of the efficiency which is to be attained by any belt used for the transmission of power is dependent upon the care which is given to that belt by the men in the shops that this booklet has been issued for the education of the workmen. The issuance of this booklet for this purpose has met with a ready response from belt users all over the United States, and can be supplied in quantities from 3 to 100 copies each.

Two very attractive catalogues have recently been issued by the Jeffrey Manufacturing Co. of Columbus, O.—General Catalogue of Mine Locomotives No. 263 and Mining Machinery Catalogue No. 312. During the 40 years which have elapsed since the first mine locomotive was designed and completed Jeffrey engineers have made a special study of this character of equipment. The new Catalogue No. 263 carries very artistic illustrations and full descriptions of the Jeffrey company's line of mine locomotives and describes fully its various electrical and mechanical features. Catalogue No. 312 gives particular attention to the Jeffrey pivoted battery box, which makes motors accessible for inspection and oiling without removal of the battery box, and illustrates and describes important features of Jeffrey storage battery locomotives for mining service.

The development of pneumatic mining and quarrying tools has been so rapid and their performance latterly so efficient that it is but natural they should now be regarded as having reached such a state of perfection that radical changes or improvements are, generally speaking, no longer expected.

And yet, notwithstanding this popular notion, the Denver Rock Drill Manufacturing Co., which has for quite a number of years been in the forefront of rock drill progress, has recently developed a new type of light mining and quarrying drill which, it is claimed, marks an advance in the progress of air drill manufacture that has seldom, if ever, been equaled by any single achievement.

This new type of drill is built in three models, known, respectively, as Models NA-90, NRW-93 and NR10-95; the first named being a "dry" auger drill, especially designed for work in coal, iron and other soft formations; the second, a combination "wet" and "dry" rock drill, efficiently serviceable in all kinds of rock and under all conditions, either above or below ground; and the last named, a "dry" rock drill particularly adapted to work in wet shafts or where out-of-door conditions prevail.

All three drills are extremely light, so that they can be easily carried about, and each is operated by one man alone.

They are built throughout of the very best steels compounded and with the utmost precision.

While most Waugh drills are of the valveless type, the "Nineties" are equipped with an entirely new type of spool valve, having a positive section, which is said to be the last word in simplicity and in efficiency as well.

The rotation mechanism is of exceptionally strong design, in which stresses in both teeth and pawls are reduced to a minimum.

Lubrication is effected by pulsations of air, which gradually feed the oil from a reservoir at the side of the cylinder into all parts of the machine.

The manufacturers state that comparative tests conclusively prove these "Ninety" drills to be much superior, more powerful and more efficient, at all pressures, than other drills of their general type and weight, and express themselves as feeling gratified at being able to make such a substantial contribution to cost reduction and stimulation of production in mining and quarrying at a time when the country stands in greatest need of labor-saving improvements in machinery used in these industries.

IMPORTS AND EXPORTS DROP

Exports in August were valued at \$584,000,000, a drop of \$67,000,000 from \$651,000,000 in July of this year and \$62,000,000 less than the exports of \$646,000,000 in August, 1919. Exports for the eight months ending with August were valued at \$5,483,000,000, an in-

crease of \$211,000,000 over the exports of \$5,272,000,000 in the first eight months of 1919.

Imports in August were valued at \$519,000,000, a decrease of \$18,000,000 from the amount of \$537,000,000 in July, but \$212,000,000 more than the imports of \$307,000,000 in August, 1919. During the eight months ending with August of this year imports amounted to \$4,000,000,000, an increase of 77 per cent., or \$1,738,000,000, over the imports of \$2,262,000,000 in the same period of 1919.

The excess of exports over imports was \$65,000,000 in August. For the eight months' period ending with August the excess of exports was \$1,483,000,000.

Gold imports increased from \$2,500,000 in August, 1919, to \$15,400,000 in August, 1920, and for the eight months' period from \$55,000,000 in 1919 to \$160,000,000 in 1920.

Gold exports in August were \$25,000,000, compared with \$45,000,000 a year ago, but for the eight months' period increased from \$197,000,000 in 1919 to \$242,000,000 in 1920.

Silver imports increased from \$56,000,000 in the eight months ending with August, 1919, to \$67,000,000 in 1920, while the exports of silver for the same period show a decrease from \$164,000,000 in 1919 to \$92,000,000 in 1920.

REDUCTION IN METALS OUTPUT OF FOUR WESTERN STATES

Advance figures on 1919 metal production in Washington, compared with 1918 production, prepared by C. N. Gerry of the United States Geological Survey, follow:

Ore treated—1918, 138,911 short tons; 1919, 100,879 tons; gold produced—1918, 14,737.83 ounces; 1919, 12,232.20 ounces; silver produced—1918, 310,093 ounces; 1919, 259,384 ounces; copper—1918, 1,922,406 pounds; 1919, 1,676,576 pounds; lead—1918, 5,271,815 pounds; 1919, 2,146,157 pounds; zinc—1918, 38,873 pounds; 1919, blank; value of 1918 production, \$1,467,421; value of 1919 production, \$968,961. There were 84 producers in Washington in 1918 and only 49 in 1919.

Production figures for Idaho are also shown as follows:

Ore treated—1918, 2,091,619 tons; 1919, 1,457,395 tons; gold produced—1918, 33,998.72 ounces; 1919, 34,502.89 ounces; silver produced—1918, 9,172,340 ounces; 1919, 5,579,656 ounces; copper—1918, 6,533,888 pounds; 1919, 3,122,743 pounds; lead—1918, 294,695,993 pounds; 1919, 182,341,898 pounds; zinc recovered—1918, 45,161,712 pounds; 1919, 15,994,229 pounds; total value of 1918 production, \$36,522,158; 1919, \$18,374,315. There were 391 producers in Idaho in 1918 and only 210 in 1919.

Figures for Utah, prepared by V. C. Heikes

of the Geological Survey, follow: Ore treated—1918, 14,705,718 tons; 1919, 6,745,423 tons; gold—1918, 142,666.10 ounces; 1919, 104,464.41 ounces; silver—1918, 13,455,597 ounces; 1919, 11,649,961 ounces; copper—1918, 227,169,630 pounds; 1919, 124,061,807 pounds; lead—1918, 167,008,224 pounds; 1919, 123,829,051 pounds; recoverable zinc—1918, 18,399,417 pounds; 1919, 4,431,024 pounds; total production value—1918, \$86,047,597; 1919, \$45,169,328. There were 251 producers in Utah in 1918 and only 179 in 1919.

Figures for Idaho, prepared by C. N. Gerry, follow: Ore treated—1918, 2,091,619 tons; 1919, 1,457,395 tons; gold produced—1918, 33,998.72 ounces; 1919, 34,502.89 ounces; silver—1918, 9,172,340 ounces; 1919, 5,579,656 ounces; copper—1918, 6,533,888 pounds; 1919, 3,122,763 pounds; lead—1918, 294,695,993 pounds; 1919, 182,341,898 pounds; recoverable zinc—1918, 45,161,712 pounds; 1919, 15,994,229 pounds; total value of production—1918, \$36,522,158; 1919, \$18,374,315. There were 391 producers in Idaho in 1918 and only 210 in 1919.

OIL SHALE STATION DESIRED

BY U. S. BUREAU OF MINES

The Bureau of Mines is requesting from Congress an appropriation of \$170,000 for the establishment of an oil shale station, the appropriation to cover the cost of grounds, laboratory and equipment.

In referring to oil shale investigations recently, Dr. E. G. Cottrell, director of the Bureau of Mines, said: "In the work on oil shale technology the Bureau has been much handicapped by lack of funds. However, two of its engineers have been able to give most of their time to investigations and experiments connected with this work. The oil shale industry is at present passing through a critical period. A relatively large amount of money has already been spent by private individuals in endeavors to determine the practical and commercial feasibility of retorting oil from oil shales. However, the industry is faced with a lack of essential fundamental information which it is the province of a Government bureau to obtain. There are a multitude of technical problems which are yet to be solved.

"The development of the oil shale industry must necessarily be a matter of years, not only because there must be built up a fund of technical knowledge and practical experience, but because great amounts of capital and labor will be necessary before any con-

siderable proportion of our present and future oil needs can be supplied from our shales. There is no doubt but that the industry will be developed into one of the largest in the United States, and it is high time the Government hasten this development by starting immediately the necessary preliminary investigations."

The Bureau plans in case Congress makes the necessary appropriation to erect a one-unit Scotch retort, the design and operation of which is already well understood, to provide a standard. By means of this standard retort it will be possible to compare various processes, various methods of retorting and various shales, one with another, respectively. Dr. Cottrell believes that this standardization will be invaluable and that it can best be done by a governmental agency.

MINERAL PRODUCTION FOR YEAR NEARLY FIVE BILLION DOLLARS

The total value of all minerals produced in the United States in 1919 was \$4,653,700,000, according to the United States Geological Survey, which has issued a preliminary summary on "Mineral Resources of the United States in 1919."

The total was 16 per cent. less than that of 1918. Metal products decreased in value 36 per cent, and mineral fuels and other non-metallic products fell off in value 3 per cent.

Gold, bound by a fixed price, while costs of mining continued to rise, declined greatly in output from dry or siliceous ores and from placers, and also as a by-product from ores of base metals, whose prices decreased. These conditions continued during the first half of 1920, and in June, 1920, only 42 per cent. of the gold mines of the country were active.

Silver output decreased 18 per cent. Commenting on prices, the report says the price of silver began to decline early in 1920, and by June was as low as 84 cents an ounce, "but it is expected that legislation fixing \$1 as the price at which silver mined and refined in the United States will be purchased by the Government will raise the general market price again."

Copper, lead and zinc declined in output and in value, although the production of much

of the lead ore was favored by its relatively high silver content. A poor demand for these metals has continued well into 1920. The pendency of a bill proposing a tariff on zinc in the Senate is noted.

Iron ore declined 13 per cent, and pig-iron 21 per cent, in output, owing to the poor demand for structural materials in the first part of 1919, but largely on account of the steel and coal strikes in the last part of the year.

When war contracts were terminated manganese producers could find no market. Markets for tungsten, chromium and other minor metals used for ferro-alloys were also insignificant, and the accumulated stock has brought production of these metals to a standstill.

War Minerals Situation.

"Hope was expressed by some that enlarged production of at least a few of these war minerals might continue after the war," says the Survey, "but overproduction and present lack of demand have reduced most of them to their pre-war status. Tariffs on some of the metals of the war minerals group have been proposed, but none have been established."

As to coal, the Survey shows the total output during the first half of 1920 has not been sufficient to meet present consumption and replenish stock depleted by the strike.

Production of petroleum increased in 1919, but owing to greater consumption stocks were only slightly augmented, and prices of crude oil were considerably advanced. "Only curtailment in domestic usage and exports, while American interests do their share of development work in foreign oil fields, will enable us to maintain a supply sufficient for our most vital needs and to establish reserves sufficient for any considerable number of years.

"The unsettled state of the mineral industries in 1919 has shown no tendency to improve up to June, 1920," the report concludes, "and with a political campaign beginning the prospects of stabilizing industry are none too bright. With the exception of the war minerals, most commodities are below normal in output. Marked increases in production are to be expected in 1921 and succeeding years until normal output is reached."

MINING AND PETROLEUM DIGEST

Industrial

Every month the *Financial World* prints "Little Sermons on Economic Law," being quotations from the works of famous economists. The one which follows is especially pertinent:

"The economists have clearly recognized and defined the rights of organized labor. The following concrete statement on the subject was written by Dr. Walker fifty years ago, and is as sound today as when it was written:

"The principal object of trades unions, generally, is the increase of wages. The different trades often combine for this purpose, and endeavor to fix the rate at which they will work. This, it would seem, they have an undoubted right to do; whether it be good policy is another question.

"Men may mutually agree, for example, that they will work ten hours per day, and will have two dollars per day as wages. All who voluntarily join such an agreement are in honor bound to keep it; and, if the association binds itself to support those who are turned out of employment, it has also the undoubted right so to do.

"But, while all this is conceded, it does not follow that if a member violates the rules of the society his associates may inflict any punishment upon him for doing so, except such as the law of the land authorizes. A trades union has all the rights which each individual member has, and no more. Hence any attempt to inflict punishment upon such delinquent is as much an infringement of his rights, and of the laws of the country, as if it were done by an individual.

"Again: nor has a trades union any right whatever, moral or legal, to interfere in any manner with those of their craft who do not choose to enter into their association. If such persons prefer to work at a less rate of wages than that established in the tariff of the union rather than not work at all, they have the most unquestionable right to do so; and any attempt to prevent them by brute force is in infringement of personal rights which government is bound to resist to the utmost. Such an act is merely the act of a mob, and has no justification. Nay, more: under a free government, where these very men who have thus combined are citizens, with the right of suffrage, and, in common with others, elect those who enact the laws under which they live, any outrage of this

kind is an overt act of moral treason against republican institutions. It is a virtual declaration that these institutions *have* failed and *must* fail to give adequate protection, and therefore these aggrieved parties are obliged to resort to violence; in other words, to override the Government, the Constitution and the laws."

Output and the Seven-Hour Day

A comparative statement of great value on the relative advantages of long and short working days in different types of occupations appears in the *Colliery Guardian* of London, England, in which not only the results in England are named, but those arrived at by investigation in the United States, Switzerland, Germany and other countries:

"The completion of a year's working of the miners' seven-hour day affords a fitting opportunity for briefly reviewing the position as regards the influence of the shortened hours upon output. It is not yet possible to give complete figures, and the matter is complicated somewhat by the fact that during the last portion of the time a largely increased number of men have been employed in the mines. Practically it appears as if the estimate of 10 per cent. reduction in output, given in the Sankey report, would be approximately realized. It is not so certain, however, that the Sankey prediction will be fulfilled in regard to the recovery of the pre-war output within two years. There is still a large amount of leeway to make up before we reach an annual output of 287,000,000 tons, which represents the figure for 1913. The weekly shortage, measured by this standard, is still 865,000 tons; and although the average output per man has lately shown signs of considerable improvement, the output per man per shift amounts only to between 15 and 16 cwt., as compared with over a ton in pre-war days.

"The effect of shorter hours of work, in fact, does not seem, as yet, to be producing the result that some optimists had predicted and others had hoped to reach. It would, however, be wrong to base any wide generalization upon the figures hitherto available. Whatever may be the ultimate effect of the shortened working day upon output, its influence cannot be accurately judged under existing circumstances. We are too near the great upheaval caused by the war and

its aftermath to expect that miners, any more than other workers, will forthwith resume their old efficiency.

LESSONS FROM EXPERIENCE

"In the meantime it is useful to follow the progress of events in other countries. There has lately been published in the United States a Research Report by the National Industrial Conference Board, reviewing the hours of work problem in five major industries. The general conclusion arrived at is that a shorter working day increases the efficiency of workers who are called upon to use intelligence at their occupation; but, where the output is mechanical and automatic, production is inversely proportional to the length of the working day. This is, of course, exactly what would be expected. The point is, to which of these categories does mining belong? It is not easy to answer this question because the output of a mine depends upon the co-ordination of many kinds of labor, some of which requires the highest intelligence, while others are as purely mechanical as could well be found in any occupation. It is this complexity of the labor factor in mines that makes it so difficult to apply general principles to its consideration.

"The United States Health Service also has recently made some investigations from which it is concluded that an 8-hour shift is more profitable than a 10-hour shift, not only in respect of increased output, but also in the diminished accident rate, a fact which is held to prove the existence of a direct relation between fatigue and risk. But unfortunately we cannot reason from this that a 7-hour shift would be more advantageous than an 8-hour shift. The optimum conditions for different kinds of work remain still to be determined; but although there are probably wide differences not only in different occupations, but also in separate individuals, it should not be impossible ultimately to arrive at an average working day that would give satisfactory results from any reasonable point of view."

High Average Daily Wage

One often reads reports of high wages paid in isolated cases to individual miners for periods of one week or two weeks, or periods of high pay for a certain number of hours' work. The following news item is of interest, in that it covers the average pay of miners in two mines of one company:

"Pittsburgh, September 10. — During the last two weeks in August the average pay of miners in two of the many mines of the Bertha Coal Co. was \$22 a day.

"This is perhaps a record that has never been achieved at any coal mine in this country, and shows the possibilities of miners

when an adequate ear supply is available, based on the present scale of wages, the highest in the history of the business in this country."

Labor's Share of Wealth

Due to inaccuracies of labor exponents, we are often afflicted with the statement that 2 per cent. of the population owns 90 per cent. of the wealth, which, of course, is a gross statistical error in that it omits the enumeration of all population under 21 years of age and omits the enumeration of wealth in small units. But it is usually an effective scare-head. An article in the *Annalist* puts both these shoes on the other feet by showing that labor is the holder of the nation's wealth and income, and that the return to capital upon the wealth of the country is less than 5 per cent, and that wage-earners already receive more than 80 per cent. of the produce of industry:

"The main conclusions of this paper are the following: The fixed wealth of the United States in 1916 was about \$260,000,000,000, whereof about \$30,000,000,000 was in stocks of goods and all the rest in real estate, railways, etc. The population of the country was about 102,500,000 souls, of whom about 41,000,000 men and women, were workers, about 14,000,000 of them being farmers. The total national produce was about 1,200,000,000 tons of goods, worth from \$45,000,000,000 to \$50,000,000,000. Out of that produce a group of people aggregating a little more than 400,000, who received incomes in excess of \$3000 and paid income taxes, got about \$7,900,000,000. Less than one-half of that was derived from investments and more than one-half came from the personal efforts of this class. Persons enjoying income of less than \$3000 received about 44 per cent. of the dividends paid by corporations, and a much larger proportion, perhaps 75 per cent., of the Government, State municipal and corporate interest payments. There remained from \$23,000,000,000 to \$28,000,000,000 to be divided among 27,000,000 non-agricultural workers, who received an average of somewhere between \$855 and \$1040 each. Among the great classes of workers there is a wide difference in earnings. The farm-hand in 1916 averaged about \$400, the factory worker \$675, the steam railway man \$886 and the metal miner \$1250. Some classes probably averaged higher wages than the metal miner.

CAPITAL'S SMALL SHARE

"The purely capitalistic return, i. e., profits, interest and rent, upon the wealth of the country cannot be determined, but apparently

is only a small percentage, certainly less than 5 per cent. on the fixed wealth.

"Since 1916 the population of the United States has been increasing at the rate of about 1,700,000 per annum, but the aggregate production of goods has increased scarcely any. Out of the substantially stationary production much has been wasted in warfare and much has had to be supplied to the people of Europe. The quantity available per person in this country has therefore diminished. The talk about labor henceforth participating to a greater extent in the produce of industry is mostly nonsense, for labor already gets all that may be divided, and the only way it can get any more is to produce more. When labor thinks that it is getting more of the produce of industry by extortionate strikes, as a whole it is doing no such thing. The quantity of goods consumed by the 400,000 income taxpayers is relatively insignificant. What really happens is that one class of labor, in order selfishly to satisfy itself, diminishes the ability of other classes of labor to obtain their needful share of goods. Manifestly conditions that enable some wage-earners to bid shoes up to \$12 per pair do not greatly trouble people in the tax-paying class, but do prevent many other wage-earners from having any shoes at all, or else having them at the expense of something else."

WEALTH OF THE UNITED STATES

	1912.	1916.
Real estate.....	\$110,676,533,071 (a)	\$150,000,000,000
Mines .....	..... (b)	8,000,000,000
Live stock.....	6,238,338,985 (c)	7,235,000,000
Farm implements.	1,368,224,548 (d)	1,675,000,000
Manufacturing machinery and tools	6,091,451,274 (e)	8,000,000,000
Gold .....	..... (f)	13,000,000,000
Silver	2,616,642,734 (f)	11,000,000,000
Railways	16,148,532,502 (g)	20,500,000,000
Trolley lines.....	4,596,563,292 (h)	5,600,000,000
Tele. & Telep.....	1,304,685,747 (h)	1,500,000,000
Pullman cars.....	123,362,701 (i)	330,000,000
Ships	1,491,117,193 (j)	1,000,000,000
Canals .....	..... (j)	1,000,000,000
Irrigation enterprises	360,865,270 (i)	400,000,000
Water works, privately owned.....	290,000,000 (i)	300,000,000
Light and power privately owned	2,098,613,122 (h)	4,500,000,000
Gas plants.....	..... (h)	3,500,000,000
Furniture, carriages, &c.....	8,463,216,223 (l)	9,220,000,000
Clothing, jewelry, &c.	4,295,008,593 (m)	5,120,000,000
Stocks of goods.....	21,576,465,840 (n)	29,520,000,000
Totals.....	\$187,759,021,090	\$260,600,000,000

Coal

While it is not a development which will constitute a large permanent supply of coal, it is an interesting outgrowth of the recent relatively high prices that reclamation of coal lost in bunkering and lost cargoes is be-

ing attempted. The following from *Sauvards Journal* tells of this process :

"The Argonaut Salvage Corporation has begun reclaiming coal from the bottom of Long Island Sound by means of a new invention, which is said to make such an operation commercially possible with coal selling at its present prices. The company's vessel, the *Reliance*, recently steamed into Bridgeport harbor with 300 tons of bituminous aboard, which was recovered off Penfield Reef in about 60 feet of water.

"Two other steamers will be put at work shortly, it is said, and they are expected to bring up about 2000 tons a day under favorable conditions. The method of procedure is to locate a sunken barge and then remove as much of the cargo as is readily accessible. How long the vessel has been under water has a good deal to do with determining the amount of coal that can be recovered, for when a barge goes to pieces the cargo is apt to be washed away or mixed with mud and sand."

REASSURING FUEL FIGURES

Statistics are usually alarming, but the following figures from the office of the Geological Survey are reassuring to those who have feared a coal famine during the coming winter:

"For four weeks in succession the bituminous output has exceeded 11,000,000 tons a week. The following figures show how the production has been running since the end of July and how it compares with the same period a year ago:

Week ending—	—Net tons.—	
	1920.	1919.
July 31.....	9,371,000	9,943,000
August 7.....	10,432,000	9,359,000
August 14.....	11,813,000	9,092,000
August 21.....	11,039,000	10,675,000
August 28.....	11,390,000	10,443,000
September 4.....	11,051,000	9,651,000*

*Five-day week.

"Production of soft coal during the first 211 working days of the last four years has been as follows: 1920, 358,464,000 tons; 1919, 307,364,000 tons; 1918, 398,981,000 tons; 1917, 372,953,000 tons. The year 1920 is thus 14,500,000 tons behind 1917 and 40,500,000 tons behind 1918, but is over 51,000,000 tons ahead of 1919.

"Production of beehive coke continued to decline during the week ending September 4. The total output is estimated at 395,000 tons, a decrease of 24,000 tons compared with the preceding week. Output in the Connellsville region, as reported by the *Courier*, declined

from 211,100 tons to 196,500 tons. Present rate of production is considerably less than last year at this time. In the corresponding week of 1919 the output for the country was 448,000 tons. Total output since the first of the year shows an increase of 9 per cent. however."

NATION OVERCOMES CRISIS

An article in the *American Coal Journal* quotes J. D. A. Morrow, vice-president of the National Coal Association, in part as follows:

"The nation is emerging from a crisis in its soft coal supply which, until the last few weeks, threatened its whole economic life. Only by bringing into play stupendous efforts on the part of the bituminous coal operators and the railroad executives, backed by the Interstate Commerce Commission, has a dire emergency been met and an industrial calamity avoided.

"As an outcome of these co-operative efforts between the operators and the railroads coal is now moving to the Northwest and to New England so as to meet an acute shortage which early in the summer menaced many public utilities and industrial plants in those territories, while also threatening a partial shutdown of industries generally throughout the country. This difficult undertaking, which called for an immediately augmented flow of cars to the mines as well as co-ordinated effort by the operators to see that cars at their disposal were expeditiously loaded and put under way to relieve the existing shortages, is achieving its object. The acute shortages at points served through the Great Lakes and New England, as well as the rest of the country, are rapidly being made up.

"The plain fact is," said Mr. Morrow, "that a fuel administration could have accomplished nothing in the existing emergency that the operators and railroads could not do themselves. Being entirely a matter of more cars at the mines and priority shipments to territories in most need of coal, it essentially was a thing for the operators and the railroads to handle. It did not take them long to find a way, and this done it was only a matter of putting the scheme into practical operation.

"While the requirements of the Northwest and New England were the primary considerations, it was also comprehended that no coal should be taken from Michigan, Ohio, Pennsylvania, New Jersey and similar territory to give coal to the Northwest and New England, but these sections must have all the coal they had been getting for their immediate needs and for a supply for next winter.

EMERGENCY HAS BEEN MET

"To handle the emergency the operators have been obliged to overcome a shortage in-

herited from the strike last winter. On April 1 there was a shortage of 15,000,000 tons, which ordinarily would have been spread throughout the country in the hands of big and smaller consumers. This shortage, because of unprecedented demands of great manufacturing plants and public utilities, grew until early in the summer it had reached 25,000,000 tons. In June public utility plants in the great cities found themselves with stocks of coal to last only a week to ten days. Individual plants were in the same fix. The small consumer was unable to lay in his winter supply.

"When the bituminous coal operators gathered in Washington in July to canvass the situation it was conservatively estimated that 545,000,000 tons of coal must be shipped from the mines for the year ending April 1 next to meet requirements.

"It was calculated in July that a weekly output of 12,000,000 tons up to December 1, as against a weekly average from April to July of 9,500,000 tons, was needed to catch up with the deficiency and assure a supply to carry the country over next winter.

"Difficultly in getting cars back to the mines during the first two weeks after the Northwestern priority order went into effect on July 26 hindered the program. The last week in August, however, the railroads dumped 1,278,065 tons of coal, or 78,065 more than the schedule requirement.

"As to New England, the emergency has more than been met. Within ten days after the New England priority went into effect the railroads touching the fields serving tidewater had carried out the weekly program calling for the 1,250,000 monthly tonnage by railroad and water, while the all-rail shipments had increased to a point to insure the successful operation of the whole New England program.

"While much has been said of the advisability of putting an embargo on overseas exports of coal, the fact is that any such embargo would be highly impracticable. It has been demonstrated that by the use of the facilities for tidewater trans-shipment of coal to New England the needs of New England can be adequately met. The performance since the New England priority order went into effect has sufficiently demonstrated it."

Copper

The growth of the demand for copper as an industrial metal is interestingly discussed in the *Financial World*, from which the following excerpts have been made showing the earlier history of copper development.

"About the time when Professor Agassiz, a noted Swiss geologist and professor of geology and natural history at Harvard College, invested his savings and some of the savings

of the Shaw and Higginson families in some copper prospects in the forested wilds of northern Michigan, which later turned out to be the great Calumet & Hecla enterprises, the world was using copper metal chiefly for sheathing wooden-ship hulls, for making copper pots and kettles for household use, and for brass ware.

"The battle between the 'Monitor' and the 'Merrimac' apparently sealed the doom of the copper industry of Civil War times. It destroyed the wooden-ship building industry in the end, and with it, the old main use for copper metal. However, in the late sixties and early seventies, a new demand was created for copper metal on a larger scale, by the spread of the electric industries, beginning, so far as affects copper, with the spread of trans-Atlantic cables.

"Professor Faraday had been for years showing British university students freak experiments. With a strong 'voltaic' battery he sent a current through wire that made the wire white hot. He also showed how a coil of wire developed electricity when you spun it around a magnet. The telegraph and telephones were the first practical applications of electricity. Both were in existence during the Civil War on a small scale.

BEGINNINGS OF INDUSTRY

"The embryonic growth of the electrical industries had developed such a demand for copper by the early eighties, that some Pennsylvania and New York copper and metal merchants—Phelps-Dodge & Company—sent one of their technologists, the late James Douglas, to acquire and develop some copper mines of their own out West. This led to founding the copper industry at Bisbee and elsewhere in Arizona and in the Southwest. About 1883, the elder Hearst and Haggin and Marcus Daly, practical silver miners of Park City, Utah (Hearst and Haggin were among America's foremost gold-silver mining magnates and financiers of those days with interests in Dakota, California, Mexico, etc., chiefly gold mines), had become so impressed with the future of copper, that they decided to invest several millions in the old silver mines at Butte, Mont. These particular silver mines were interesting because the ore had enough copper by-product to make the by-product valuable. And so was founded the copper industry at Butte. Now the silver is the by-product!

"In the early nineties, two new channels developed a mushroom expansion of the electrical industries. One was the electric trolley car which supplanted the old horse car and cable car in towns, and made possible interurban car lines. Secondly, came the wholesale harnessing of water falls and long-distance transmission of the water power in the form of electric current. Prodigious amounts

of heavy copper wire were required in these directions.

"Between 1902 and 1906, Daniel Cowan Jackling developed a cheap mining method, and his mining-camp pal, the late Frank Janney developed a cheap milling method. Jackling succeeded in getting the Boston and New York bankers, Hayden, Stone & Company, to finance mines and mills, and the latter, about 1908, succeeded in interesting the Guggenheims in providing smelting facilities. Thus was born and developed the 'porphyry copper' mining business which now produces the bulk of the world's copper metal.

CONSUMPTION BELOW NORMAL

"In 1919, some 876,000,000 pounds refined copper were delivered to domestic consumers in United States, and 517,000,000 pounds exported, according to the United States Geological Survey. I estimate about 500,000,000 pounds additional new production elsewhere that was consumed, and also an additional 230,000,000 pounds of war 'left-over' copper that was consumed in 1919. This suggests a total actual consumption of copper amounting to 2,125,000,000 pounds in 1919, or actually less than the 1912-13 normal! Of the 1919 consumption, I estimate 1,900,000,000 pounds used up in this country, or more than before the war, and 1,125,000,000 pounds used abroad, or less than before the war—emphasizing that not only had after-the-war demand not yet set in in 1919, but not even normal routine peace demand.

"In 1920 to date, refinery output of copper has been at the rate of about 1,850,000,000 pounds a year. Apparent actual sales into delivery (not merely booked orders) exceed new production by 26 per cent, as I have computed from the first six months' reports of the big Utah, Nevada, Ray and Chino and the Independent United Verde Extension companies. If we assume for the entire industry and for the entire year, 20 per cent, excess sales over production, sales of American copper would approximate 2,220,000,000 pounds for 1920. Add about 480,000,000 pounds foreign, non-American new production, and you have 2,700,000,000 pounds sold to consumers in 1920. Deduct about 200,000,000 pounds for, let us say, surplus stocks carried by consumers on hand at the end of 1920 versus practically bare cupboards at the beginning of 1920, and you have an apparent actual consumption of 2,500,000,000 pounds in 1920 versus 2,125,000,000 pounds in 1919, and 2,225,000,000 pounds normal routine demand in 1912-13 yearly.

"The normal routine demand for 1920-1921, if business were anywhere near normal, I estimate would be about 2,600,000,000 pounds. I anticipate a growth of 5 per cent, a year, or say 20 per cent, in four years, which would make the normal routine demand by 1925 in excess of 3,600,000,000 pounds, or in excess of

present world production capacity to supply new copper."

PRICES TO REMAIN HIGHER

This same magazine in a further article by its same copper expert makes the following statement with regard to the normal price of copper:

"Today 18½ cents a pound is considered a low price for copper metal. Before the war a price as high as 18½ cents was never reached in modern history with but a single exception, the 1906-07 boom period. Even in the great 1912 copper boom, the highest price reached was 17½ cents a pound.

"In the good old days of the Copper Kings in the eighties and early nineties of last century, 12 cents was considered a very good price for copper metal, and when times were hard Marcus Daly and James H. Magginn and the Boston crowd gladly took 8 cents or 9 cents a pound. Then in the nineties began the demand for copper for electric trolley cars, for hydro-electric power projects, for telephones and lighting; Rockefeller and the Steel crowd bought into Anaconda (Amalgamated), and a new day dawned for copper. From 1898 on, 12 cents was considered a panic-low price for copper metal; the extreme lowest price ever reached was 11 cents in the panic period of early 1902, repeated only in the late summer of 1911, immediately following the outbreak of the war.

"The venerable W. A. Clark, the only survivor of the old Copper Kings of a generation ago, has lived to see the metal selling above 30 cents a pound in late 1916 and early 1917—within two years after selling at 11 cents in the late summer of 1914.

"The war and its end have established again a new and still higher price standard in the copper industry, and I do not think a price as low as 15 cents a pound will be seen for years to come, if ever. How high the price of copper may go, I do not care to predict, as I have never made a habit of pre-

dicting. As to my prediction against a price so low as 15 cents a pound in the years to come, this prediction is eminently safe considering that the average cost of production has been 16 cents a pound since 1917. In fact, after the armistice, when the copper market was completely moribund for five months, the *Engineering and Mining Journal* once did report prices at extreme bottom, a slight fraction under 15 cents; but this quotation was nominal—there was no selling of appreciable amounts of copper metal at any such prices, and as soon as copper buying started again in June, 1919, the price immediately went to 18 cents, then 20 cents, stayed above 20 cents for over five months, and has never since gone under 18 cents. That the price should hold above 18 cents is remarkable considering that enormous surplus stocks of unsold copper metal are still carried by the companies; dividends have had to be curtailed, and important buying of metal has been almost suspended since April.

"In the years after the war, 16 cents to 18 cents a pound must be considered as rock-bottom, panic-low prices for copper metal; that over 20 cents must be a normal or average price for the red metal, versus 14½ cents for 15 years before the war, and about 12 cents in the eighties and nineties; that as to how high copper may go, one prediction is as good as another; and that the seemingly high prices are inevitable when one considers how costs have grown with the years.

"The average cost of producing a pound of copper today exceeds 16 cents and over 16 cents a pound has been the average cost of production since late 1917. This is an official Government figure to which I shall refer again, shortly.

"In 1916, the average cost of producing copper was 9½ cents a pound as reported by 27 leading companies, and would have been under 9 cents for these companies were it not for the high copper prices the last few months of the year, which automatically raised wages up the sliding scale then in vogue."

AVERAGE PRICE OF COPPER METAL

	1929	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900
Jan.	18.9	17.5*	23.5	28.7	24.0	13.6	14.2	16.5	14.1	12.3	13.6	13.9	13.7	24.4	18.3	15.0	12.4	12.2	11.0	16.2	15.6
Feb.	18.6	16.8	23.5	31.8	26.4	14.4	14.5	14.9	14.1	12.2	13.3	12.9	12.9	24.9	17.9	15.0	12.1	12.8	12.2	16.4	15.8
Mar.	18.3	14.9	23.5	31.5	26.3	14.8	14.1	14.7	14.7	12.1	13.2	12.4	12.7	25.1	18.4	15.1	12.3	14.4	11.9	16.1	16.3
Apr.	18.7	15.2	23.5	27.9	27.9	16.8	14.2	15.3	15.7	12.0	12.7	12.6	12.7	24.2	18.4	14.9	12.9	14.4	11.6	16.1	16.8
May	18.5	15.9	23.5	28.8	28.6	18.5	14.0	15.4	16.0	12.0	12.5	12.9	12.6	24.0	18.5	14.6	12.8	14.4	11.9	16.1	16.3
June	18.1	17.6	23.5	30.0	26.6	19.5	13.6	11.7	17.2	12.4	12.4	13.2	12.7	21.7	18.4	14.7	12.3	13.9	12.1	16.1	15.7
July	18.5	21.6	25.9	26.6	27.9	18.8	13.2	14.2	17.2	12.4	12.2	12.9	12.7	22.1	18.2	14.9	12.4	13.1	11.8	16.3	16.0
Aug.	22.3	26.0	25.4	26.1	16.9	11.5*	15.4	17.5	12.4	12.4	12.4	13.0	13.5	18.1	18.4	15.6	12.3	13.0	11.4	16.3	16.3
Sept.	21.8	26.0	25.1	26.9	17.5	11.0*	16.3	17.5	12.2	12.4	12.9	13.4	15.6	19.9	16.0	12.5	13.2	11.5	16.2	16.4	
Oct.	21.5	26.0	23.5	27.2	17.7	11.0*	16.3	17.3	12.2	12.6	12.7	12.7	13.3	13.2	21.2	16.3	13.0	12.8	11.4	16.3	16.4
Nov.	19.8	26.0	23.5	29.6	18.6	11.7	15.2	17.3	12.6	12.7	12.7	13.1	14.1	13.4	21.8	16.6	14.3	12.6	11.3	16.2	16.4
Dec.	18.3	23.0*	23.5	31.3	20.1	12.8	14.2	17.1	13.6	12.6	12.6	13.3	14.1	13.1	22.9	18.3	14.7	12.0	11.4	13.8	16.3
Year	...	18.6*	21.3*	27.2	27.2	17.3	12.0*	15.3	16.3	12.4	12.7	13.0	13.2	20.0	19.3	15.6	12.8	13.2	11.6	16.1	16.2

*Estimated; no figures published for these months and years by the *Engineering and Mining Journal*.

Mexican Oil Situation

The Mexican oil situation is well summarized in the *Commercial and Financial Age* as follows:

"To obtain a first-hand report of actual conditions in Mexico, the United States Government, it was made known on September 14, has summoned George T. Summerlin, the American Charge d'Affaires in Mexico City, to Washington for a series of conferences with Secretary Colby and other Government officials. With regard to Mr. Summerlin's mission, Washington advices of September 14 to the *New York Times*, said:

"Mr. Summerlin, it is expected, will report on all phases of the Mexican situation and will tell why the present Mexican Government has taken no steps to annul certain of the Carranza Government decrees, not only those affecting foreign oil interests, but also other property interests in which Americans are concerned, including the failure to take steps to indemnify American farmers and merchants who were deprived of their holdings by Carranzistas or bandits during the previous Mexican Administration. It is said that the protests of these farmers, merchants and other persons have been ignored despite the fact that the records prove that the great majority of them strictly complied with Mexican laws."

"The Mexican Government has maintained a firm stand for the enforcement of certain laws against which foreign interests, especially the American oil men, have for a long time voiced vigorous protests.

AMERICA TAKES EXCEPTION

"Following the termination of a controversy between the oil interests and the Mexican Government over payment of export taxes it was announced officially on September 7 that instructions had been sent to the American Embassy in Mexico City, about three weeks before, to notify the Mexican Government that the United States regarded the operation of the 'denouncement law' and the Federal zone law in the oil fields as an infringement of the rights of Americans under international law. It was learned at the State Department by a Washington correspondent of the *New York Times* that the American note, dispatched early in August, did not call for a reply, being in the nature of a protest to make the record straight when the matter shall come up again for consideration. It was directed against what was described as an invasion of the vested rights of Americans, and was described as an unmistakable declaration of the State Department's concern that American owners should not be deprived of their vested rights without their assent. Subsequently on September 9, it became known that the rights of Americans

engaged in agriculture, mining and manufacturing in Mexico, as well as of those interested in oil properties, have been the subject of recent representations to the Mexican Government. Instances regarded as infringing on these rights through double taxation or confiscatory measures have been noted in the correspondence, it was said. The action was described as in line with the policy of the State Department to keep Mexican officials advised that the United States expected American vested rights in that country to receive the protection due under accepted international usage.

"The attitude of the Mexican Government on the oil question was made plain on September 7 by Provisional President de la Huerta. At a luncheon given to foreign press correspondents on that date he declared: 'Mexico has no desire to curtail her exportations of oil to the United States and the campaign waged there relative to the oil question is nothing but so-called "North American bluff" by enemies of the Mexican Government.' He further said:

WHAT DE LA HUERTA SAID

"The Federal zones are the property of the nation, which maintains she has a right to dispose of them as she desires. A departure from this policy would mean the loss of the nation's sovereignty.

"The controversy would be settled if other nations would recognize Mexico's ownership of her own subsoil. Mexico does not desire to check American domination of our oil production. On the contrary, we would welcome such preponderance if our laws were obeyed. Petroleum, despite the present situation, is not the greatest point at issue between Mexico and the United States. Protection of foreign lives and property is our most important international problem."

"President de la Huerta said the greatest assistance the United States could render Mexico would be 'recognition of our present Government and the legality of its rulings and laws.' He added:

"Inasmuch as this is a republican government, in which the majority rules, the desires of the majority—that is, the proletariat—must prevail.

"Any Government which wishes to avoid catatylasm must direct the evolution of labor, and not obstruct it. Any nation that does obstruct it is headed for an upheaval.

"We propose to enact laws in Mexico providing for development of industries along the lines which the majority demand. Otherwise, there will be another revolution. As the outgrowth of the last revolution the desires of labor and the purposes of the Government are traveling parallel lines."

"President de la Huerta, it was announced in advices of August 6 to the Department of

Commerce, had promulgated a decree creating the Mexican Consulative Petroleum Board to assist in the study of conditions in the Mexican petroleum industry, including legislation and controversies arising out of operation of the Mexican oil fields. In promulgating the decree, the President declared that the Mexican petroleum industry needs, for its full development and establishment, agencies essential for the same, especially such as by technical labor may contribute to the knowledge and better solution of numerous problems which the nationalization of the oil-bearing subsoil gives rise to. The functions of the new board were enumerated to be as follows:

"The study of the bills and other legal provisions with reference to the petroleum industry.

"The study of the controversies which may arise in petroleum matters.

"The general investigation of the conditions in the petroleum industry.

"Encouragement of the petroleum industry.

"The study of the fuel problem as a basis for industrial progress.

"The study of the national petroleum industry as related to that industry in other countries.

"The settlement of points of a technical character submitted to the Board by the Department of Industry, Commerce and Labor, the various Departments of State or private individuals.

"Said settlement shall have the character of an opinion which shall be submitted to the decision of the Secretary of Industry, Commerce and Labor."

Tax Decree

The State Department at Washington, D. C., has been advised of an executive decree of the Government of Mexico relative to the payment of taxes on mining property in Mexico. This decree will be of interest to all persons who are holding properties or who have idle holdings within the Southern Republic. This decree, published in the *Diario Oficial* of Mexico City on July 20, contains regulations covering the payment of taxes now due and provides that additional charges will be remitted to companies complying with the present laws and paying the taxes for the first two quarters of 1920. The decree as received by the State Department reads as follows:

"1. All the additional charges owed by those liable to the annual tax on mining property are hereby remitted, provided the parties

interested pay the first and second quarters of the present year before August 31 next.

"2. The proprietors of mines who were owing quarters previous to 1920 and shall have paid the two quarters of the year in conformity to the preceding article, shall have the right to pay quantities (amounts) quarterly which they are in arrears in as many installments as there are quarters that they owe and thus settle the amount of one quarter in arrears every time they make payment on the regular taxes.

"3. If the parties involved do not take advantage of the exceptions established by this decree or do not make payment on the dates on which the respective periods for such payment expire, this failure shall give occasion to the declaration that their respective titles are revoked without leaving room for any further recourse.

"4. The owners of mining properties who complied with the articles of the decree of June 28, 1919, shall continue to meet their obligations in accordance with that decree.

"5. The main tax officers are authorized to receive in conformity to the present decree the payments which those owing the annual tax on mining property may wish to make, but they should include at the end of the monthly accounts which they render to the Department of Hacienda a report in which they express the customary data with a notation as to whether the interested parties have complied with the exemptions referred to in the foregoing article.

"Transitory articles 3, 4, 5, 6 and 7 of the decree of June 27, 1919, are revoked."

Sizing Up New Regime

The New York *Times* has published the following interesting account of the recent elections in Mexico which gives the mining industry an idea of what can be expected from the possible stability of the new Government there:

"General Alvaro Obregon, a candidate of the Liberal Constitutionalist party, was elected President of Mexico on September 5 by an overwhelming vote. The election, which was called by Provisional President de la Huerta, to choose a successor to Venustiano Carranza, took place without any disorders. Obregon, while a former Minister of War in the Carranza Cabinet, was one of the most prominent leaders in the revolution which brought about the downfall of the late President. The Liberal Constitutionalist Party was responsible for the Plan of Agua Prieta, which repudiated the leadership of President Carranza. The National Republican Party, while non-sectarian in its principles, is largely composed of Roman Catholics.

"Obregon had two nominal opponents,

neither of whom was taken seriously, though Alfredo Robles Domínguez, nominated by the National Republican Party, was expected to receive considerable support among the conservative Catholic element.

"The other opponent, Nicholas Zúñiga Miranda, is known as Mexico's perpetual candidate and is believed to be unbalanced. He has been a Presidential candidate for the last thirty years, having begun during the early days of the Díaz regime, when he was considered as merely a foil for that virtual dictator.

"Dominguez's campaign was taken seriously in the present elections, but it was regarded as an attempt to feel out the strength of the Catholic following and prepare the ground for placing a strong united Catholic Party in the field for the next Presidential elections to succeed Obregon.

"Declarations in favor of a liberal foreign policy, with guarantees of life and property to nationals of other countries and encouragement of foreign investment, were contained in manifestos on September 4 by two of the opposing candidates for the Mexican Presidency. The international planks of the two platforms translated textually were given in the press dispatches of September 4 from Mexico City, as follows:

OBREGON'S PLATFORM

"General Obregon (Liberal Constitutionalist):

"'Inviolability of our sovereignty as an autonomous State.

"'Absolute respect for the sovereignty and institutions of all countries of the world.

"'Facilities for foreign capital wishing to invest in our country for the development and improvement of its natural riches, seeking ways to reconcile in the most practical and fair way the advantages obtained by capital and labor and the public treasure.

"'Complete acknowledgment of all legitimate rights obtained by foreigners in our country.

"'Guarantees that all foreigners residing in Mexico enjoy, in the broadest sense of the word, all the privileges and protection granted by our laws.

"'Frank tendency to reinforce and establish our foreign relations on the aforesaid basis.'

"Robles Domínguez (Republic Nationalist):

"'Re-establishment of our relations with foreign countries, giving real guarantees to their nationals and to their investments. Because of our geographical location we should pay especial attention to our relations with the peoples of the continent.

"'Encouragement of wholesome immigration and of the investment of capital for the

development of communications, agriculture and industry, since the foreign element is an important factor in the progress of young nations.'

"Both candidates favor progressive internal policies and point out the necessity of honest administration. They differ radically, however, as to the Constitution of 1917, at present in force. General Obregon recognizes the present organic law, while Senor Robles Domínguez is pledged, by a pronouncement recently issued by his party, to call a convention in case he is elected, and set in motion the machinery for the adoption of a new Constitution.

"Alfredo Dominguez, General Obregon's opponent, sent to the Deputies in Congress, just previous to the election, a petition asking them to rule that General Obregon was constitutionally barred from becoming a candidate for the Presidency. The petition, it was said, reviewed the military record of General Obregon preceding the overthrow of Carranza, maintaining that this disqualified him under Article 82 of the Constitution, which says that any candidate 'shall not have taken part, directly or indirectly, in any uprising, riot or military coup.' The petition further quoted the electoral law and the criminal code in support of its argument.

"Advancing doubt of the legal standing of the Obregon candidacy, the authorities in several districts had, it was said, refused to register his candidacy."

Confiscation Protested

Following the election of Obregon, the United States Government has issued a protest to Mexico against confiscation laws, which the *New York Times* summarizes as follows:

"He explained that the debts of Mexico were most pressing, and that this would be the first thing taken into consideration when he assumes office. 'We will pay our debts as far as possible, and will arrange for means to pay off all obligations. I think that when we show that we are paying to our full capacity we can arrange all our difficulties. Needs, not words, will be our motto regarding our debts.'

"When asked if Mexico would include the Victoriano Huerta loan of about forty million pesos, Senor Obregon stated that as yet he had not studied the matter thoroughly, but he would have a commission of experienced experts pass upon Mexico's debts and the manner in which to pay them.

"'I will try to surround myself with men of experience and ideas, who will decide these questions,' he said, adding that his Ministers would be selected for ability and would have full responsibility. He would be guided by

their advice and they would be real Ministers, not merely figureheads as during the Carranza regime.

"The General said that he had not studied the oil question enough to make a statement, but that Article 27 would be regarded as a fundamental part of the Constitution. It was the desire of the Government to interpret this article in a way that would protect Mexico's interests, but he had no desire to injure vested interests. A commission would study the methods to so regulate the laws that vested rights would be protected.

"Regarding the spread of Bolshevik doctrine by foreign agitators, Obregon said that foreigners were not allowed to take any part in Mexican affairs, as Mexico had a system of government that would not permit foreigners to interfere to change that form. He said that when he had taken the oath of office he would not permit the spread of doctrines which would injure the State.

"The national railway lines would not be returned to private control, he said, as the Government had the controlling interest. Stockholders, however, would be given an opportunity to have a direct voice in the management so they could see that their investments were protected and that the railways were honestly administered.

"He did not consider the labor problem very serious and thought it would work out gradually with benefits to both worker and capitalist.

"When asked how relations between the United States and Mexico would be improved, Obregon stated that when Americans understood that Mexico was honest in her intentions to comply with her obligations, he was sure that their relations would be of the best. He did not fear trouble with the United States, as there were no reasons why all the small difficulties now existing between the two countries could not be arranged with an exhibition of joint good faith.

"Commercial relations between the two countries could be strengthened through excursions of and exchange of professional business men in both countries. Mexico could, through excursions to the United States, learn many things to her advantage."

Deflation and Mining

The effect of the deflation program on the mining industry is one which is always anticipated long in advance and which is greatly feared by all operators in industrial minerals. That the present state of the world's markets does not offer a distinct menace is set forth in an article in the *Engineering and Mining Journal*, which says in part:

"The long-expected and much-postponed

decline in commodity prices seems at last to have set in in earnest. The textile industry appears to have borne the brunt of the first onslaught, the woolen, cotton and silk mills now being operated at considerably reduced capacities or having shut down entirely. Merchants are confronted with daily losses on their inventoried stocks, which induce them to turn to bargain sales in order to unload. Sugar, which advanced possibly more than any other commodity equally widely used, has dropped from 25 to 19 cents retail. It is surprising how easy it is to secure it now compared with the difficulty several months ago when the market was advancing.

"Although business interests cannot expect to prosper in the next two or three years as they have in the term just passed, we can see no reason for alarm in the mining industry. Rather the contrary. Mining supplies and labor are almost certain to fall more than metal prices. The latter, with the exception of lead and iron, are too near the cost of production to be seriously affected. Iron is too badly needed for reconstruction purposes to experience any great dullness. Then, too, much construction work in which iron is used has been delayed during the last few years.

"Lead may slump some, but even with present high prices, production is too entailed to allow much of a drop. Silver, of course, is pretty well pegged. Copper and zinc should be in greater demand month by month as normal conditions are restored. We think it unlikely that any great increase in price will take place in either of these metals, for general conditions do not favor such a change. Rather will these industries prosper through reduced costs of production.

"So although the big manufacturing industries may look on the period of deflation with some qualms, and the profiteers and speculators with actual dismay, the rest of us may profit. Things, as someone has said, affect different people differently. Adam, William Tell, and Isaac Newton each had his little affair with an apple, but with quite different results."

Oil Shale

While we hold no brief for the producers and promoters of oil shale and prospective shale reduction plants, we are interested in the possible development and use of any natural resource of such large extent and such potential value as is contained in the shale beds of America. The National Petroleum News sent one of its experts into the shale fields for the purpose of investigating, with the result that he writes an article published from which the following are excerpts. These sound somewhat like

the statements that were made by the producers of whale oil 50 and 60 years ago concerning the then new sniffed-at product, petroleum.

"In 1913 the Bureau of Mines began to investigate the oil shale deposits in Colorado, Utah, Nevada, Wyoming, Montana and California, primarily to lay the predicate for segregation of land and secondarily to ascertain the extent, character and commercial value of the deposits. Dean Winchester conducted the field work of testing the shales and arriving at approximate values and the location of the best deposits. When enough had been known to indicate the major deposits two areas in Colorado and Utah, uniting practically as one, were withdrawn as naval reserves for oil, about 86,600 acres altogether. Mr. Winchester's investigations and tests were incorporated in government reports. These reports quite naturally attracted public attention, and land-owners within the indicated deposits area saw opportunities to sell and lease their holdings and leasers and speculators gradually became active, somewhat after the manner of petroleum oil lands.

"A hundred or more stock companies were organized by residents of the States in which shales are found, beginning three or four years ago. Some of the companies, as soon as enough stock had been sold, began preparations to put up demonstration plants in Salt Lake and Denver, and finally to move some material to the locations of their leased or fee acreage, notably near De Beque, Col. Chemists and engineers saw an opportunity to design plants to extract the oil and treat it for commercial use. Two or three engineering concerns of standing, in New York and elsewhere, sent experts to the shale fields to learn if the reports warranted investment of capital on a large scale. Efforts were made to learn about the shale oil plants that had been operating in Scotland 50 years, and the Scotch processes were generally accepted as the basis for further experimentation and modified demonstration. For two or three years there was considerable activity, the Bureau of Mines taking stock in small, unpractical plants.

"The effort to establish an oil shale industry has been a series of experiments, with many failures, and at this writing there is not a plant in the United States that is turning out shale oil, either crude or by-products, and every one that is active is still experimenting. The last public statement by the Bureau of Mines warned against investment in oil shale except after the most careful investigation, and stated that oil shale, compared to petroleum, as a commercial and industrial proposition or as an adjunct to petroleum, was as one pea representing shale oil to a carload of peas rep-

resenting petroleum. Further advice was given that it would be years before oil shale development and treating would become an acknowledged and stabilized industry. It may be said, in extenuation and mitigation of this very pessimistic attitude, that the individual attaches of the Bureau of Mines who are assigned to the work of experimenting with shales are quite enthusiastic about the valuable content of the shale and believe that within five or ten years its treatment and marketing will be an established and profitable industry.

OIL SHALES ARE MYSTERY

"As a prelude to a somewhat superficial review of the oil shale situation and its fundamentals, it may be stated that the processes that are being worked on for successful adoption by the trade are known as the Galloupe, the Genet, the Jensen, the Sundberg-Liehliter-Winter, the O'Rourke, the Stallman, the Catlin, the Day, and perhaps two or three others. The Henderson or Scotch and the DeBry or French principles of retorting form the base of all experiments, probably because they have been successfully employed in commercial plants that return satisfactory dividends. This is especially true of the Henderson processes used in Scotland. So far as is known, only six plants are now active—one at Elko, Nevada; one at Dillon, Montana; one at Salt Lake and one at Dragon, Utah; and two at De Beque, Col. There is one plant at Elko, two at Salt Lake, one at Watson, Utah, and several at De Beque district inactive. A number of companies have run out of funds, are reorganizing, or have definitely abandoned further work.

"The prevailing belief is that the oil shale business consists of retorting the shale ore and that the oil content runs out into tanks like crude petroleum from wells and that a refinery treats the crude shale oil like it does crude petroleum, and the products are then marketed as common petroleum products. It sounds simple and assuring.

"Shale oil is contained in solid sedimentary substances deposited through still water on the bed of the body of water and formed from marine life, organic and inorganic—a modified fish oil, it would seem. The ore must be mined, crushed and run into a retort, where it is superheated until the gases or vapors are thrown off and through pipes conveyed to a condenser, where it becomes a black, heavy and viscous fluid of rank odor. As mere crude oil, thus run off, it does not appear to be as valuable as crude petroleum. Treated in a standard petroleum refinery the results are problematical. If gasoline, naphtha, kerosene, lubricating oil and paraffin wax are desired for commercial profit, superficially it seems that petroleum is more amenable and valuable than shale

crude oil. Analyzed by ordinary scales, petroleum appears preferable to shale oil.

RESULTS ARE SYNTHETIC

"The chemists and engineers who have delved deepest into shale and its derivatives are fairly agreed that direct methods of precipitating and stabilizing its ingredients, as with crude petroleum, do not yield satisfactory results. Oil shale is complex and reflex, and must be treated synthetically.

"There is abundance of oil shale in Kentucky, Colorado, Utah, Wyoming, Montana, Nevada and California—enough to keep a million retorting plants running a hundred years, and then some.

"Being essentially a mining operation, the cost of mining oil shale and placing it in retorts for smelting is comparatively easy to arrive at, say approximately \$1.25 per ton. Retorting should cost no more than 25 cents per ton, unless the entire refining process is completed in the retort. Reduction of low-grade mineral ores is comparable to the reduction of shale ore, commercially speaking. Final profits, while rather complex, will come as from any other manufacturing industry; they may be more or less than those following petroleum refining—inferentially less than more.

"Plant construction is so much of an unknown quantity at this writing because no commercial plant has ever been put in operation that it is any one's guess."

Comparison Favors Shale

A comparison of the possible returns from a mountain of shale which you can see and the possible returns from an oil well, the bottom of which you cannot see, at least give the edge to the shale producer so far as conservatism is concerned. The same writer continues:

"There is probably more oil shale, asphalt sand beds and ozokerite in Utah than in any other State of the Union, nature having whimsically wrapped all the oil it vouchsafed the State in solid rock and sands, the heavy oil being contained in shale beds and sand and the residue from light oil being left as ozokerite or paraffin wax. The most extensive deposits of ozokerite in the United States are located near Colton and Soldier Summit, in the Denver & Rio Grande railroad in the southeastern corner of Utah and Wasatch counties and in Carbon county, about 90 miles southeast of Salt Lake.

"After having been casually worked these ozokerite mines were opened during the late war and a new plant operated regularly to meet enlarged demands. The mineral occurs as a filling in fissure veins of sandstone and

shale varying in width from five to six feet, the ozokerite ranging from mere films to 22 inches in thickness. The ore, so called conveniently, is quarried, sorted and crushed before being placed in steam-heated vats containing water raised to a temperature of 54 to 70 degrees Centigrade. The wax melts and floats off as a liquid into cooling vats, the rock substance draining off at the bottom. A second and third boiling clarifies the tailings. The refined wax is then heated in an open vat to remove trapped moisture and turned into molds for marketing. Further treatment produces ceresine. Filtering is through fuller's earth, alkalis, animal charcoal or magnesium silicate.

"Refined ozokerite is used for some of the purposes that paraffin wax extracted from petroleum is put to. As a vaseline it is filtered through animal charcoal from 12 to 30 times and super-heated steam at 250 degrees Centigrade for three or four hours. When ozokerite is finished for market it is employed in the manufacture of wax figures, dolls and candles; as a substitute or adulterant for beeswax; as a covering to protect metals from moisture, acids and alkalis; for waxing paper and lining barrels and acid tanks; as a foundation for waxes, polishes, liniments, salves and plasters; for imitation alabaster statuettes and decorations for confections; for imitation honeycombs, blacking and polishes for boots and shoes, varnish, shoemakers' and floor wax; as a base for a variety of lubricants from axle grease to gun oil; in the manufacture of leather polish, sealing wax and pomades, and as electrical insulation. The bulk of the 1918 output was used as an acid-proof coating for electrotype plates.

"The Utah deposits are not inexhaustible, but are sufficient to form a profitable industry on a reasonable scale, and add somewhat to the paraffin output of petroleum refineries. An extensive manufacturing concern in New Jersey, in its efforts to buy paraffin wax, has discovered that the output of the big refineries like Standard and other plants is absorbed to the maximum, making it difficult to find a dependable source of supply for independent industrial purposes. One of the most pretentious oil shale demonstration plants hopes to specialize on paraffin wax if experiments now going on demonstrate its presence in oil shale in sufficient volume to warrant. This is a suggestion to oil shale operators."

Echoes from Burkburnett

On another page the same journal publishes this statement concerning the Burkburnett field. Compare the statements of two or three years ago about Burkburnett and the statements of any of the wildest

shale promoters about their properties and the present outcome of each and again shale has it on the other for conservatism:

"With Wichita Falls sand district production of Texas barely exceeding 90,000 barrels daily, and with the major pipe lines handling fully 50 per cent of the oil, a tightening is apparent in the opportunity for the independent skimming plant operator to obtain crude oil for his refinery. This is particularly true of the 'boom' plants built around Wichita Falls on the strength of the high flush production of a year ago.

"Fully half of the crude not taken by the major pipe lines is finding its way into the hands of the Independent purchasing agencies, some of which maintain short-line systems from the fields to railroad loading racks for tank car shipments and others of which built plants through which to refine this crude.

"Refineries in the Wichita Falls district which own at least a part of their own production, and which number approximately half a dozen, account for an additional consumption of the daily output of crude from the wells. As a result the 'boom plant' operator is out on a limb and with little financial stability behind him, he is unable to finance his purchases of raw material. Where he is able to make financial arrangements he is paying premiums normal at 50 cents a barrel above the posted price, and sometimes even higher, while the more stable Independent purchasing agencies are paying a minimum premium of 25 cents under contract and normally 40 cents a barrel otherwise.

"Whereas the wells on the Burkburnett townsite are now down to a per well average of about four and a half barrels daily, this territory, with the Burkburnett old (shallow) pool and the southeast Burkburnett (Texhoma) pool development shows an average for the combined territory of eight and two-one hundredths barrels to the well.

"Northwest Burkburnett, lumping the Burkh-Wagoner (northwest extension) pool, the river bed territory and the Emerich development, together with the Sparks area beyond the so-called 'extension,' gives a daily per well average of approximately 29½ barrels daily. Wells in the Emerich pool, beyond the northwest extension, and to the south where the Texas Company's C. Birk lease has been a prolific recent development, hold up to this general average against a smaller showing were the northwest extension proper to be considered alone.

"In the old Electra pool, the original development of the Greater Wichita Falls district, which dates back to the 'discovery'

well in 1911, the per well average production at the present time is roughly seven and three-quarters barrels daily, on a settled basis."

Seen from the Other Side.

This article from the *Petroleum Age* seems to take a somewhat different attitude from the one just quoted and it is an interesting enough reverse of the opinions just expressed to stand by itself without further commentary.

"Has the time come to build plants for the reduction of oil shale? Every indication points to the fact that that day is here. In the West is shale enough lying untouched to give us several hundreds of billions of barrels of oil.

"The shale means that, come what will, America will have for 500 or 1000, maybe 2000 years, enough oil for its industries and its defense. It means that we are not dependent upon our oil wells or the oil wells of other nations if our wells should be milked dry.

"Until recently little thought has been given to the oil shale hills. Petroleum was too plentiful. The price was low. It was cheaper and quicker to get it from flowing wells than to reduce the shale rock.

"With the present demand for oil prices have risen to a point where the shale can be handled at satisfactory profits. Indications point to the permanence of this condition.

"Shale oil reduction is no poor man's game. Plants of commercial size run into big money. Under present methods the smallest unit, 100 tons daily capacity, would cost \$100,000 or more. A number of plants are being built this summer.

"Seventy-five years ago, before oil was struck in Pennsylvania, the production of oil from shale had begun to gain a foothold. Some oil was being reduced from coal and lignites which gave kerosene the name of 'coal oil' in those days. Later the Mormons built crude stills for the reduction of Utah shales.

"But with the cheaper production of crude oil from wells and the dropping of prices the industry vanished. Now, with higher prices returning, the modern shale oil industry has been born. Harry Flynn, president of the Oil Shale Mining Company, reports that a multitude of tests have proved that the massive or black shale, by the company's improved system, can be reduced without fusing or coking.

ELKO PLANT MOST COMPLETE

"Probably the most complete plant constructed so far is that of the Catlin Shale

Products Company, at Elko, Nev. The company was organized by R. M. Catlin, president of the New Jersey Zinc Company. Mr. Catlin pioneered in the mining industry in Nevada.

"At the same point the Southern Pacific Railroad has constructed a retort of the Pumphreton or Scotch type. The United States Government co-operated with the railroad in that undertaking. This retort was completed last fall. It is believed that the railroad company is making this experiment for the purpose of developing fuel oil for its locomotives.

"One of the remarkable things about oil shale, aside from its comparatively inexhaustible quantities, is the vast range of its by-products. And science is adding to these steadily. Some of the products easily recognized and having a fixed commercial value are as follows:

"Gasoline, paraffin, kerosene, naphtha, lubricating oil, motor spirits, fuel oil, still grease, still coke, ichthyol, perfume base, dry base, paints, varnish and enamel base, mineral turpentine, roofing and paving materials, mineral rubber, fertilizers, ammonium sulphate, nitrates, phosphates, etc.

"Government investigators who have measured and tested much of the Colorado and Utah oil shale have estimated the yield of oil in certain districts as 20,000 barrels to the acre. Some believe that, with the prices sure to prevail, the shale can be reduced at a cost so that it will net \$2 a barrel profit.

"Of course, future values of petroleum and future costs of production are a matter impossible of determination at this time but the estimates nevertheless are interesting."

Several Plants Operating

Somewhat in opposition to the news brought by this report is a review of the present oil situation presented in *The Shale Review*:

"While it is conceded that the treatment of bituminous shales in the United States is still in its infancy, as a business proposition, it is not generally known that there are six completed plants, located in the shale fields, which have produced several hundred barrels of shale oil. In addition to these retorts there are four others, located in Western cities, which are of sufficient size to treat several tons daily. These city plants have all been operated with sufficient quantities of shale to justify their classification as commercial units. There are also other retorts under construction and many more being exploited. Not a single one of these can be classed as failures. All produce a product that performs all the functions of

oil obtained from wells. In some respects shale oil is superior to the average petroleum produced by present drilling methods. The average man who has read of oil shale is ready to state that it will some day become an important industry if they "ever invent a process." In answer to this oft quoted remark, which is an inference that there is no device for satisfactorily treating shale, the following description and list of completed shale retorts is submitted.

"On the eastern edge of the Colorado shale fields the Continental Oil Shale Mining and Refining Company has recently completed a 50-ton retort which has been operated successfully. This plant is continuous in operation and is a vertical cylinder through which the shale passes by gravity to a water seal at the bottom.

FIRST SHALE OIL MADE

"The first shale oil made in the United States, except in an experimental way, was made by the Oil Shale Mining Company, whose retorts are located about 12 miles northwest of DeBeque. A Henderson (Scotish type) retort was built by this company in 1917 and has produced oil in a considerable quantity at various times. Since that date the same corporation has experimented with a continuous type of retort known as the Young process, but is now constructing two additional tubes similar to the first retort. Oil produced in this plant has been sold for special purposes and the company is prepared to market its oil in quantity.

"The properties of the Mt. Logan Oil Shale Company are also located near DeBeque. Mt. Logan is the highest peak in the vicinity, the top of which consists of a large body of rich shale. This company has built a tramway to the top of the mountain and located its shale retort at a lower level. As pioneers in the business some experiments were made with retort construction, but a device known as the Simplex process has now been finished and quite a quantity of oil produced. Although the shale deposits of the Mt. Logan Company are on a high peak it is noted that the distance from railroad transportation is short, somewhat less than five miles.

"The Western Shale Oil Company, organized at Grand Junction, Colorado, completed a single unit of a Galloupe retort on its properties near Dragon, Utah, last spring. The location is a few miles from the town of Dragon on the Utah railway, a narrow gauge line which connects with the Denver & Rio Grande at Mack, Colorado. The shale retort and properties of the company are about eight miles from Dragon and about the same distance from the Colorado shale line. The plant has made a number of runs and produced a quantity of oil. In the process of treatment the oil is fractionated. The

lighter portions have been used successfully in operating the company's motor truck. The plant is being enlarged to five times its present capacity.

NEVADA HAS LARGEST RETORT

"The largest completed shale retorts in the United States are located at Elko, Nevada, the property of the Catlin Shale Products Company, a private enterprise of R. M. Catlin, president of the New Jersey Zinc Company. These retorts have been operated over considerable periods. Several hundred barrels of oil have been produced and same is now in storage on the company's property. For the purpose of utilizing this oil commercially a refinery is nearing completion. This refinery will recover motor spirits and paraffin wax and other refined products of petroleum.

"The oil shale industry in the United States has, therefore, reached the point where it has been fully demonstrated that oil can be made from our American shales by practically any device which primarily consists of a heated air-tight chamber from which the vapors are carried to a cooling apparatus known as a condenser. Most of the experimenting in retorts has been with the idea of obtaining faster results as compared with the Scottish or intermittent method. Numerous inventors have worked on this problem and the fact that there have been so many devices exploited has given the impression that the problem of a process is unsolved. Nothing remains to be worked out except improvements or speed.

MARKET CONDITIONS

"The market for shale oil is still for the future. While the plants above described have all made oil, which is a good commercial product, most of them are remote from railroad transportation and the product is something for which the market has not been prepared. Oil refineries find that shale oil requires some treatment different in many ways from that followed in handling petroleum from wells. Refinery men are not familiar with this article and the transportation and treatment and the marketing of the shale oil refined products is yet to be worked out, but it is believed that no serious obstacle will be encountered in these operations and in a short time quantities of this product will be sold in the market."

Uses for Crude Shale

Another article in this same magazine treats of a most interesting and immediately possible commercial use for shale in its

crude form, which reads very logically in these days of \$12 and \$15 coal.

"Another use for oil shale has been discovered by P. O. Perkins of Salt Lake City. A test was made in Salt Lake recently at the Semloh Hotel, according to the *Salt Lake Tribune*.

"A mixture of soft coal and shale broken to approximately one-inch mesh, was spread upon the firebox of the Semloh Hotel boiler. The coal was thrown into the firebox as under ordinary circumstances, and the shale, in quantity about one-fourth of the amount of the coal, was thrown on the top of the coal. In several moments the steam gauge began to rise steadily. When the party went out into the street no smoke could be seen issuing from the stack.

"As soon as the charge of shale had been burnt out, Mr. Perkins had the furnace fired with coal without any shale. Immediately a black column of smoke rolled out of the stack. The virtues of the mixed fuel, consisting of shale and coal, is its simplicity of use, its economy and its perfect combustion, according to Mr. Perkins, who has patented the process and spent considerable money in experiments and trying to interest capital in the plan.

"The simplicity of my plan for eliminating smoke is perhaps its chief drawback," said Mr. Perkins. "People are skeptical that so simple an operation can give so excellent results. This shale-coal fuel can be used in any furnace. As there is an inexhaustible supply of oil shale in Utah, and as the shale can be produced cheaper and marketed at a less cost than coal, not only will the use of mixed shale and coal solve the smoke problem here in Salt Lake City, but it will mean a more efficient fuel at a reduced cost. Some engineers have raised objection to using shale in the furnace on the ground that the mineral will clinker and clog the fire grates. I have found that the shale, crushed to the size we used it, burns to a light substance easily broken to powder and adding little ash and no clinkers."

THE PERKINS PROCESS

"Mr. Perkins explained his process as follows:

"By burning oil shale with coal in proportions of about one of shale to four of coal, a perfect combustion is secured. Coal, when used alone, lies on the fire some six to eight minutes before it begins to blaze, and during this period and for a time afterward it gives off heavy gas and carbon which, not having the flame to burn them, passes away in smoke.

"When oil shale is used with the coal in the proportion above stated, a very different

action takes place. As soon as the shale is thrown in the firebox it blazes up with a steady, hot flame which burns the gas and carbon that is cast off by the coal, making a perfect combustion and positively no smoke.

"To eliminate smoke in an ordinary furnace using coal alone, it is necessary and so ordered by the city inspectors to open the door of the fire box from two to four inches. This causes cold air to rush over the fire and prevent the smoke showing. The reason for the smoke not showing is because the air thins it out. The gas and carbon are there just the same, and pass up the chimney unburned and invisible, and so many heat units are thereby lost. In my opinion, at least half the efficiency of the coal is lost while the door remains open.

"With the use of oil shale and coal the door of the firebox is closed tight, securing full efficiency of the fuel. Further attention is called to the greater efficiency of the oil shale-coal fuel, in the fact that the perfect combustion secured and eliminating the smoke leaves the heating surfaces of the boiler clean, allowing it to work at highest efficiency at all times, thereby making a big saving in fuel.

"After firing with coal alone the steam gauge drops back from 10 to 15 pounds. Firing with the oil shale fuel it does not drop back. It rises at once. This means much better results from the fuel."

Magnesium

The following interesting review of a little known but very valuable metal appears in a Geological Survey report:

"The lightest metal now known that remains comparatively unaltered under ordinary atmospheric conditions is magnesium, which is only two-thirds as heavy as aluminum. Magnesium is a beautiful silvery-white metal that has been made in the United States only since 1915 and is now made at but three plants. It is known to comparatively few people and to most of those few chiefly as a silvery powder used for making flashlights in photography. It was imported from Germany for this use for many years. During the world war large quantities of powdered magnesium were made in the United States for use in star shells designed to illuminate battle fields at night, as well as in special shells designed to show in daytime exactly where the shells containing it exploded. The white cloud by day and the brilliant white pillar of fire by night—both striking features of the battle fields of the world war—were produced by the combustion of magnesium.

"Magnesium in massive form, as sticks or rods, is used to deoxidize other metals in foundries and is a constituent of alloys.

More magnesium is now used as a deoxidizer or scavenger in metallurgy than for any other purpose, but its employment in alloys is increasing and may eventually become the largest one. An alloy of magnesium and aluminum is used in making castings for aircraft engines and parts of airplanes. The skeleton of the British airship R-34, the first dirigible to cross the Atlantic, is an alloy of aluminum and magnesium, and the yacht *Resolute*, the defender of the America's cup in the races in July, 1920, as well as the alternative defender *Vanitie*, carried gaffs made of this alloy.

"The demand for metallic magnesium has slackened since the war, however, and in 1919 its production in the United States amounted to 127,465 pounds, valued at \$247,362, a decrease of 55 per cent. in quantity and 60 per cent. in value from 1918. A report on the magnesium industry in 1919, by R. W. Stone, can be obtained free on application to the Director, United States Geological Survey, Washington, D. C."

Magnesite

In a splendid article on the development of the magnesite industry in the State of Washington the *Northwest Mining Truth* of Spokane makes the following statements concerning the possibilities of these large magnesite deposits and the necessity for their protection by some tariff recognition:

"When war broke out in 1914 almost every pound of magnesite used in the steel industry of the United States was derived from quarries in Greece and Austria and laid down on these shores at prices prohibitory to domestic development. Immediately after war commenced, although the main deposits in Austria were owned by American capital, a German officer was placed in charge and no shipments were subsequently made without Germany's consent.

"For nearly two years prior to declaration of war by the United States the foreign supply was entirely cut off and if it had not been for the foresighted men who commenced the development of Stevens county's great deposits in 1916, it is conceivable that war munitions would not have been forthcoming from this continent.

SENATE DELAYS ACTION

"In spite of this condition, and the fact that the United States is in position to produce all the magnesite necessary for its industrial life from domestic sources, Congress hesitates to place a proper embargo upon the foreign supply, which, in event of another war, would again be closed to us.

"In four years at least \$3,000,000 has been expended in development of the northern de-

posits. The expenditures include cost of a 16-mile standard gauge railroad—the Spokane Valley & Northern—from Valley to the Allen quarries of American Mineral Production Company, the great reduction plant of Northwest Magnesite Company, one mile from Chewelah; a five-mile tramway from that plant to the quarries at Brown's Lake; extensive surface equipment of crushing plants, kilns and camp buildings, and excavations that have already yielded close to 500,000 tons of crude magnesite.

TARIFF WOULD END MONOPOLY

"Some idea of what would be the inevitable result in event of provision of a satisfactory import duty upon foreign supply is gathered from the fact that American Refractories Company, which owns much of the supply in Austria, has recently obtained a tentative footing in Stevens county through an option upon the holdings of Valley Magnesite Company, owning the Double Eagle deposits. If the tariff be provided, it is certain that the company will become a big factor in the Stevens county fields, but if the Senate refuses to ratify the action of the House, it will doubtless retire to its foreign base, safe in the knowledge that heavy freight rates from Stevens county to Atlantic points will definitely kill the local industry in favor of Europe.

"In the opinion of Mining Truth the suggested tariff is the most important matter now before Congress, so far as the industrial Northwest is concerned."

EVILS OF FOREIGN CONTROL

A world monopoly of any vital article of commerce is almost as much to be feared in the hands of one country as in the hands of another. The fact that the magnesite monopoly was apparently in the hands of interests which were identified with enemy countries during the war has been justifiably emphasized in the light that the magnesite industry has made for an adequate protection for the industry in the United States. *The London Mining Journal* says:

"It is announced that Schneider-Creuzot, acting on behalf of magnesite consumers in France, the Sarre, and the Grand Duchy of Luxemburg, have acquired a large interest in the Veitscher Magnesitwerke, in Styria. Further operations are reported with a view to controlling in a large measure the world market in magnesite."

The reverse of this situation is shown in the same journal for June 5, 1920, in which it is stated that Asia Minor chrome has been acquired by German interests. Chrome,

heretofore, has been largely imported from French countries or countries under French control and mines operated by French concessions:

"It is reported that of the 40 chrome-ore mining concessions in Asia Minor, the chief of which are situated in the provinces of Brusa, Smyrna, Alfania and Kouia, only 18 are at present being worked. Germany is interested in some of the mines in Brusa, from which she is stated to have obtained 5,000 tons of ore during the war. The tenor of the ore in the various deposits is between 40 and 50 per cent. chromic acid; the stocks at present available for shipment are estimated at 20,000 tons. Up to now the chief importers have been the United States (70 per cent.), France (17 per cent.) and Holland (11 per cent.)."

The necessary thing in this country is to have the mining industry so protected that these shifts from a former enemy to a former friendly country or vice versa will not be of paramount political and industrial importance to the basic industries of this country which depends on these ores for their finished products.

IRON

An interesting review of the iron and steel industry in Japan is given in the *Mining Journal* of London, England:

"Some estimate of the position and outlook of the Japanese iron and steel industry since the war has been made recently in trade circles in that country, and, formed in the presence of the recent slump, it is naturally not very cheerful. The recent history of the industry is summarized briefly in the Japanese press to the following effect: The iron industry showed remarkable development during the war, the cause being a stimulation through the stoppage of foreign supply. Japan, although she still today relies on foreign supplies, was far more largely dependent in pre-war times, as her own iron industry in those days was only in a primitive stage, and it was only by disregarding all commercial and economic considerations that Japanese iron could be put on the market in competition with British, American and German iron, by the State iron works at Yawata, Kamishi and Wauishi, and the Nippon steel works, and a few other small concerns. This was far from sufficient to meet the domestic demand, the rest being supplied from abroad. Among the above works, the Nippon steel works undertook and still undertakes mostly the manufacture of firearms, while many other works served very largely the requirements of the

Government rather than the demands of the people, so it will be easily understood that the industry was anything but satisfactory. So far as nominal private undertakings went, the output of pig iron at that time stood in the neighborhood of only 100,000 tons a year. Things, however, took a sudden change for the better during the war. Imports from England and Germany came to a standstill, and, after America came in, the American supply was also subject to regulation. Those who could get iron were not slow in turning this situation to their advantage. The shipbuilding and mechanical industries were in need of great quantities, and willing to pay any price. Prices rose, and the prospects of the iron industry became brighter. Capitalists with money to invest were not slow in seizing this opportunity, and many new or enlarged concerns sprang up. The Nippon Steel Pipe Company, the Osaka Iron Works, the Nippon Pig Iron Works, the Tokyo Steel Manufactory, the Oshima Steel Works, the Nippon Steel Works (not the Nippon previously mentioned), the Fuji Steel Works, the Tokyo Steel Works, the Toyo, Anshanhan, Penkilu and Kyomipo Iron Works, etc., were among the leading companies owing their existence, or at least their importance, to the war. The output of pig iron consequently considerably increased, as compared with the pre-war level, amounting to about 600,000 tons.

NIPPON'S MARKET BREAKS

"It was expected that if things continued on these lines Japan would soon be independent in her supply of iron, and the Government and the people encouraged the development of the industry in every possible way. But the war came to an abrupt end, and the proclamation of the armistice in the autumn of 1918 dealt a severe blow to Japan's iron industry, coming as it did just at the moment when it was being solidified firmly. Fears were then expressed concerning the possibility of a great decrease in demand for iron, and prices began to fall. The prospects of the re-appearance of foreign manufactures became imminent, and when England and America lifted their embargo on the export of iron, it dealt a severe blow to the Japanese iron market, which did not fail to have its effect on the iron industry. Prices fell precipitately, pig iron from Y. 750 per ton to about Y. 100, steel plate from Y. 2,500 to about Y. 300, and iron bar from Y. 400 to about Y. 150. The difficulties of both the dealers and manufacturers became acute. The cost of production, however, remained as high as ever, and this added to the difficulties of the smelters. Many iron works were closed, while dealers, who had been carrying on a speculative gamble, went

bankrupt. Endeavors were made to keep up the market through the reduction of output, and this was done, but it did not bring about any noteworthy result for a long time. In such circumstances it follows that many of the iron works, which came into existence in such force, found themselves unable to pay any dividend, even for the first half of 1919, when they still had the advantage of the expiring impetus of war. The Nippon Steel Works, the Fuji Steel Works and the Osaka Iron Works, for instance, either suffered a loss or could not pay any dividend.

SMALL FIRMS SUFFER MOST

"From the beginning of the present year, however, things began to recover somewhat, as the import of iron from England and America became difficult for various reasons. All went on very smoothly till about March, when the slump came. With the sudden stringency of money, iron, like many other commodities, became very difficult to hold, and prices declined to an unwarrantable degree, when compared with those of foreign markets, while there is no prospect of an early recovery. Small companies are in greater difficulties than the larger ones, and are being closed, while it is reported that two or three of them have long since been 'resting'. Fears are expressed that if the slump continues long, of which there is, unfortunately, every possibility, even those iron works still at work can only be saved from bankruptcy by specializing in some particular line."

Vanadium

In a review of the mining industry in Peru, the *Mining Journal* of London, England, has the following to say of vanadium in the South American Republic and of the operations of the Vanadium Company of America in this field:

"VANADIUM. One of the most interesting of the Peruvian products is vanadium, the Republic contributing about 96 per cent. of the world's output. The history of this industry is remarkable. As our readers well know, it is controlled entirely by the United States Vanadium Company, which, in addition to the practical monopoly which the possession of the Minas Ragra deposits confers upon it, not long since acquired control of its chief, if slight, competitor, the Primos Chemical Co. in Colorado. The output in 1918 showed a heavy decline, both as regards tonnage and also grade of concentrates, the figures being 2184 tons of ore with a total content of 666 tons of vanadic acid, com-

pared with 4083 tons of concentrates containing 1461 tons in the year previous—that is to say that the output was barely 42 per cent. of the previous year, and this goes far to explain the complaints which have been current in recent months of the difficulty of obtaining supplies in this country, and of the high prices charged for vanadium alloys. When it is considered that the production of these mines since 1907 has constituted over 90 per cent. of the world's output, and has in that time aggregated only 5518 tons of metallic vanadium, the important place which the substance has won in the world of alloys, especially in connection with the automobile industry, must be a matter of surprise, and is a remarkable justification of the foresight of those who have scientifically created a demand for a product which, until recent years, was of no commercial value. As our readers are aware, the company is now busy completing complicated transport arrangements, which should permit of much more extended, and also cheaper, operation when they are completed, which should be in the autumn. It is calculated that there is ore now in sight at Minas Ragra which should yield 16,000 tons of metallic vanadium, or about three times the output up to the present date, and that deposit contains probably not less than 45,000 tons, so that the position in relation to the supply of this rare metal ought to be eased in the course of next year."

Zinc

Mining and Metallurgy for September publishes a most interesting article on recent developments in the Tri-State Zinc District of Oklahoma, Kansas and Missouri, of which the following are some of the pertinent excerpts:

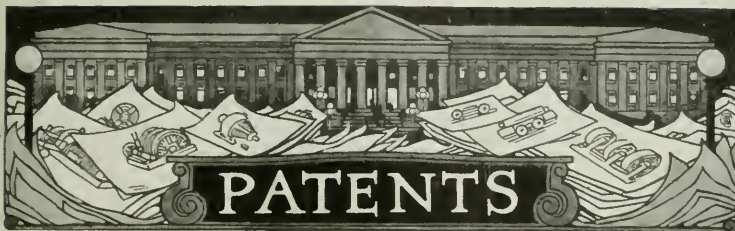
"The Tri-State field is now believed to be the largest zinc district in the world. It has a potential production sufficient to supply the entire zinc demands of the country. It is estimated that a train 70 miles long would be required to haul the district's 1919 output of 60 per cent. zinc concentrates. For many years, including 1917, Missouri surpassed Oklahoma in zinc production. In 1918, however, Oklahoma led by a wide margin and, in 1919, Missouri produced less than one-sixth of the total for the three States, when Kansas replaced Missouri in second place in the production. The district is now producing one-third of the zinc of the world and twice as much as ever before at the present price.

"During the war, the price of zinc concentrates in the Joplin district was \$130 per ton for 60 per cent. zinc content for a short time, and remained at \$100 for some months; it averaged about \$98 for the year 1917. With an average of \$83 for 1916 and \$87 for 1918,

there was a stimulus to drill prospecting and opening up new fields, which had an unexpected effect upon the Tri-State district. The bulk of production has been shifted 25 miles southwest, chiefly to the Quapaw Indian Reservation, near Baxter Springs, Kans. Most of the old Webb City sheet-ground mines are filling with acid water with little prospect of their being reopened for many years. Galena, Granby, Joplin, and Webb City have been all but abandoned, except at Oronogo, and near Webb City, where a community drilling program has been started. The first piece of land leased and drilled out developed rich lead ore near Webb City, and the discovery was sold at auction for enough to finance drilling campaigns on a number of other promising tracts. A mill is already operating on the site of the first venture. Since the cost of mining and milling, which was about 90 cents per ton in the Webb City sheet-ground area, has reached a figure close to three times that amount in the new Picher field between Miami, Okla., and Baxter Springs, Kans., the 2 per cent. mines of the old Joplin district have practically all been closed and only the best of the ore can be mined in the new area, covering something over 30 square miles. One of the best known mines on the Kansas side made a recovery of 14.9 per cent. last year. A recovery of twice this is sometimes reached for a short time, and most of the mines recover from 5 to 8 per cent. in 60 per cent. zinc concentrates. Many mines are being closed because the present price of zinc concentrate runs from \$40 to \$45 per ton and is averaging less than the 10-year average before the beginning of the war. With costs nearly three times as great and the price of the product around \$12.50, many companies cannot hold out."

CANADIAN PIG-IRON

Production of pig-iron in Canada during the first half of 1920, according to statistics of the Department of Mines, Ottawa, was 502,667 short tons, as compared with 524,977 during the corresponding period of last year. The average monthly production during the first half of 1920 was 83,778 tons, as compared with 87,496 tons during the first half of last year, and with 76,482 tons per month for the whole of last year. Production for the last four years was as follows: 1916, total, 1,169,257 tons; monthly average, 97,438 tons; 1917, total, 1,170,480 tons; monthly average, 97,540 tons; 1918, total, 1,195,551 tons; monthly average, 99,629 tons; 1919, total, 917,781 tons; monthly average, 76,482 tons.



CONDUCTED BY JOHN BOYLE, JR.

1,348,407—*John E. Greenawalt*, Denver, Col.

Blast Roaster, comprising an open-top holder for a charge of material to be treated, an igniting member movable relatively to said holder and adapted to be temporarily positioned over the holder and its charge in non-movable relation thereto, and operating to ignite the charge at its surface while so positioned.

1,348,408—*John E. Greenawalt*, Denver, Colorado.

Process of Roasting Ores, which consists in subjecting a charge of the material to the traverse of gases through the charge downward from a chamber superposed above the charge, projecting from fixed points above the charge ignition fuel into said chamber, igniting said fuel, and supplying combustion, supporting gases to the fuel during the period of its projection into the chamber.

1,350,364—*Benjamin H. Dosenbach*, Butte, Montana.

Flotation Process, consisting in subjecting a modifying agent, such as oil, to the solvent action of water to remove soluble matter therefrom, in producing the remainder of said agent in the gaseous state into an ore-pulp, thereby effecting flotation of certain constituents of the ore, and separating the floated constituents from the remainder of the ores.

1,350,040—*E. W. Davis*, Duluth, Minn.

Apparatus for Agglomerating Ores, comprising a series of trucks mounted on a track and adapted to receive charges of ore, a vacuum chamber adjacent to said truck, airtight communications between each of said trucks and said vacuum chamber, and reciprocating feeding means mounted adjacent to said truck and adapted to move said series of trucks by engagement with one of them, said feeding means automatically engaging the truck on its forward stroke, but passing by said truck upon its return stroke.

1,350,647—*G. H. Elmore*, Swarthmore, Pa., and *H. L. McLean*, Scranton, Pa.

Discharge Control for Jigs, comprising a perforated bed or screen for supporting the material to be treated, an outlet at the discharge end of said screen for the escape of heavier materials, an overflow for the lighter material, a discharge valve controlling the escape of the heavier materials, a stationary imperforated casing above the bed or screen, a float within the casing, a rock shaft provided with a radial arm from which said float is suspended, and connections between the rock shaft and the discharge valve whereby said valve is caused to discharge the heavier materials when the float is elevated to a predetermined level by the building up of the heavier material beneath it.

1,350,706—*Charles E. Davis*, Chicago, Ill. Assigned to Goodman Manufacturing Co.

Mining Machine, comprising a frame, a cutting device projecting therefrom, a feeding mechanism for feeding the cutting device laterally towards the material to be acted upon, a motor for actuating the feeding mechanism, a retarding device for retarding one end of said machine comprising a drum mounted on the frame and disconnected from the motor, a flexible power transmitting device connected with the drum and with a fixed part at a distance from the machine, a gear connected with said drum, a worm-wheel operatively connected with said gear, a worm engaging said wheel, and means for rotating said worm so as to rotate said drum.

1,349,641—*Fran B. Wathen*, Strattonville, Pennsylvania.

Mining Implement, adapted for manual operation within a limited space, which is portable and can be used for undermining strata or seams of ore or coal. The implement consists of a cutter bar which is supported on a tripod and adapted to be moved back and forth between supporting rollers, and due to the weight of the bar a blow of great power can be delivered with a moderate expenditure of energy.

1,351,096—*David Cole*, El Paso, Tex. Assigned to Mineral Separation North American Corporation.

Apparatus for Separating or Concentrating Ores, comprising a tank having an inlet at one end, an outlet at the opposite end, and a plurality of sizing compartments at the bottom, said tank being constructed and arranged to permit a free flow of material there-through in a substantially horizontal direction from the inlet to the outlet and above said compartments, and a series of vertically disposed spaced shutters within said tank, and said shutters having slate downwardly inclined in the direction of flow.

1,351,155—*James B. Brown*, Denver, Col.

Ore Flotation Apparatus, comprising a container divided into a feed chamber, a separating chamber provided with an overflow, and a transfer conduit which, adjacent to its bottom, communicates with each of the chambers for the reception of material, and which has an outlet adapted to deliver material in sheet-like form on to the liquid level in the separation chamber, determined by the overflow, and means for introducing a gas into the lower part of the transfer conduit.

1,351,234—*J. M. Draper*, Bridgend, England.

Hydraulic Separator for Coal and Ores, comprising an outer tube, an inverted conical chamber contained within the inner part of said tube, and from the apex of which another tube extends downward, a central feed fitted with a telescopic adjustable delivery tube to regulate the point of delivery, a connection for the admission of liquid to the other tube below the top of the inner one, and a circular overflow ledge above the upper end of said outer tube.

1,351,563—*James C. Gaskill*, Fairmont, West Virginia.

Adjustable Bar Coal Screen.

1,351,593—*Edwin N. Weaver*, Jersey City, New Jersey.

Coal-Handling Machine, comprising a plurality of pairs of crushing jaws, the jaws of each pair being movable towards and from each other, a crusher actuator beneath the jaws, connections between the actuator and the jaws to cause reciprocation of the jaws of one pair in a direction opposite to that in which the jaws reciprocate, the actuator being moved in a direction perpendicular to the direction of the movement of the jaws.

MEXICAN TAX RULING

On September 15 the Mexican Government fixed October 31 as the last date for the payment of 1920 mining quotas.

SAND-LIME BRICK IN 1919

Sand-lime brick produced in the United States in 1919, according to an estimate made by the Geological Survey, amounted to 145,000,000 brick, valued at \$1,725,000, an increase of 47,000,000 brick and of \$841,000 over 1918. The maximum output of sand-lime brick—227,344,000 brick—was made in 1916, but the maximum value was that of 1919.

The output of common brick was 142,755,000, valued at \$1,688,000, an increase of 45,937,000 brick and of \$822,000 compared with 1918. The rest of the output was face brick, which showed an increase of 664,000 brick and of \$19,000 compared with 1918. The average price of common brick per thousand in 1919 was \$11.82, compared with \$8.94 in 1918, \$7.54 in 1917 and \$6.43 in 1916. The average price of face brick in 1919 per thousand was \$16.48, compared with \$11.35 in 1918, \$9.36 in 1917 and \$9.64 in 1916.

PERSONALS

B. Britton Gottsberger, formerly of Arizona and now of New York, spent several days in Washington during the month.

L. C. Graton, formerly of the Natural Resources Division of the Internal Revenue Department, now in private practice at Cambridge, Mass., was a caller at the offices of the Mining Congress September 23. Mr. Graton, after a short stay in Washington, returned to his home and will leave early in October for an extended trip to Peru. He anticipates being out of the United States six months or longer.

John C. Howard, president of the Utah Refining Co., Salt Lake City, Utah, and director of the American Mining Congress, presented a paper on "Relative Value of Western Lubricating Oils" to the twelfth annual national convention of the Independent Oil Men's Association, held at Denver during September.

Dr. W. C. Phalen, formerly geologist in the United States Geological Survey and mining technologist in the Bureau of Mines, has been engaged as geologist by the Solvay Process Co. of Syracuse, N. Y.

THE MINING CONGRESS JOURNAL

Official Publication of the American Mining Congress

ANNOUNCEMENT

The American Mining Congress, in pursuance of its fixed policy of enlarging its facilities and expanding its service to meet the growing demands of America's greatest industry, will enlarge the page size of THE MINING CONGRESS JOURNAL to 9 by 12 inches, beginning with the January, 1921 issue.

This increased size will lend itself to the accommodation of advertisers as well as permit greater facility for illustration. The growing trend toward centralization of business control in the national capital, no matter how much we may protest against this tendency, is making it increasingly necessary that mining men should be kept in close touch with legislative, administrative and judicial rulings which affect the mining industry, and the increased volume of mining news fully warrants the immediate enlargement of THE MINING CONGRESS JOURNAL. The welfare of the mining industry depends in growing measure upon Washington activities and it is the function of the THE MINING CONGRESS JOURNAL to make it possible for every mining man to keep thoroughly posted upon the course of events transpiring and about to transpire at the Nation's capital.

THE GREATEST ORGANIZATION IN THE WORLD

The greatest organization in the world is the Government of the United States—great in natural wealth, great in extent of territory, but greater still

in the manhood and womanhood of the nation.

While representative government may yet be an experiment, thus far in history this representative government has demonstrated its ability to furnish better opportunities to all its citizens for education and development and bring to them life necessities and greater luxuries than are to be secured in any other nation of the world. Above and beyond this, it has brought to its citizens the greatest amount of individual liberty. Subordinate organizations have attempted to curtail these liberties and in the name of liberty and justice have asked that only members of their own organization should be permitted to work and earn a living. Efforts have been made to subvert the laws and the constitution in order that a minority might control the affairs of government. In spite of these efforts it still remains true that every citizen of the United States has a right to express himself individually in the selection of those representatives through which his views may find expression. This is true representative government, the best government which the world has yet developed. These thoughts have been suggested by an editorial in *The Manufacturer and Industrial News Bureau*, of Portland, Oregon. We quote:

"There is one organization over all and greater than all and that is organized society, and when any other or all other organizations fail to exert proper control it is the duty of this organization which is the servant of all the people to exert and exercise its sovereign authority."

Organized society in the United States is the Government of the United States, the greatest government in the world, only restricted in its operations by the constitution which protects every citizen in the greatest liberty which is possible without trespassing upon the liberties of others. It will be well if every citizen of the United States will recognize that any infraction of the principles of our great constitution is bound to bring retribution.

GOLD AND OUR FOREIGN TRADE

Under the title, "The Relation of Mining to International Politics," the *Engineering and Mining Journal* of October 2 carries a very able editorial with special reference to the copper mining industry. This editorial calls attention to the fact that while the home consumption for copper is rather in excess of the ordinary demand, the foreign markets are making no demand for copper, notwithstanding the great need which there exists for rehabilitation of its industrial machinery, in which copper plays so important a part. This is accounted for principally in the following language: "More than that, there money is no good. With all our bankers' theories as to the solidity of paper or demi-paper currency, they shun paper in practice. We will not sell our copper to Germany for paper marks, nor to Austria for paper krone, nor to France for paper francs. We demand, instead, the good old gold and silver—may Heaven bless them and protect them, and the vital American industries they represent! And the real stuff they do not have. * * * Therefore, the only remedy is the stabilization of Europe, and that is why our next and chief interest is in European and Americo-European politics, because it is undeniable that just as mad policies have shattered Europe, wise policies can heal her."

Thus it appears that one of the great drawbacks to the present prosperity of the American copper producing industry is the lack of gold in the hands of European countries, which, while need-

ing our copper, are not able to pay for it. This condition is accentuated by the fact that since January 1, 1919, an adverse European trade balance has been created of \$3,500,000,000, which is yet to be funded. Could a more effectual lesson be given to those deluded economists who believe that we have too much gold and that financial credit can be based upon the index price of certain commodities? The United States has at the present time more than its share of the world's gold supply, and our credit is good anywhere in the world. The other countries lack a supply of gold and the depreciation of their currency is measured by that deficiency. Even Great Britain's magnificent credit is not able to maintain her exchange on a par with gold, and as a result the South African gold miner, using his gold to buy British exchange, is able to operate under what is substantially a bonus which at the low point of exchange was 50 per cent above the monetary price of 85 shillings per ounce, and thus South African gold production is being maintained at something nearly a normal level. The magnificent credit of our own country has placed a burden upon our gold mining operations which has closed many of our gold mines, only a few being able to continue operations in the hope that something would turn up which would make possible gold mining operations on a pre-war basis. One by one these operations are being discontinued, and it is probable that the gold production of this year will be from thirty to forty million dollars less than sufficient to meet the amount required and used for other than monetary purposes. In other words, having used up the total gold produced in the country, the jewelers will take from the United States Treasury gold reserves approximately thirty million dollars, leaving our gold standard with that much less of support.

The American Mining Congress has proposed that Congress shall ask the users of gold for jewelry to pay a tax representing a part of the difference between its government fixed value and

the actual cost of production in order that gold production may be stimulated. The American Bankers Association in two succeeding annual conventions have passed resolutions approving some government stimulation to gold production. A recent letter from the president of a prominent western bank, in speaking of the McFadden bill, says, "It is sound to the core. Something else is required for the financing of the commercial and industrial life of this nation besides ability to run a printing press for the issue of money." This bank president is sound to the core, and we believe the bankers of the nation, with very few exceptions, will approve and will urge upon Congress the importance of devising some means to prevent the demoralization of our gold standard and to protect the gold reserves which sustain the nation's credit.

STATE REGULATION OF INDUSTRY

It is somewhat remarkable that in a country where such great prosperity has been developed through the unrestricted operation of individual incentive and in which the free operation of the law of supply and demand has brought to our people so large a measure of general prosperity that because of a dislocation of industrial activity occasioned by war conditions, we should plunge into the doubtful experiment of state control. It would seem that the experience with government control of the coal industry during the war, with the general dislocation of every industry in which the government asserted its power under the Lever Act, would bring sufficient lesson to an intelligent people to prevent further possibilities of governmental interference with the ordinary conduct of business. The quickest possible return to normal conditions in which the law of supply and demand may operate, will in the present as in the past, meet the public demands in the most effective manner possible. War conditions were abnormal but the American people do not seem to realize the simple truth of this statement.

During the war period we sent approximately 20 million tons of food products annually across the water. During the war the whole industrial strength of the nation was turned to the manufacture of war materials and supplies. Business and commercial life were voluntarily and recklessly transformed into parts of the great war machine. The inflation of prices and enormous profits, particularly to the workers of the nation, made possible reckless expenditures which jointly with the shortage created by exportations made havoc with usual customs entirely subversive to the ordinary direction of business enterprises. The signing of the armistice found the country in a chaotic condition in which every patriotic citizen hoped for a return to normal conditions. The process of a return to normal conditions is now being interfered with by theoretical reformers inspired, whether wittingly or otherwise, with the idea that legislation can bring relief from the abnormal conditions. As a radical illustration of this tendency, the legislature of the state of Indiana in special session has created a special Food and Coal Commission which is given power to fully direct the operation of coal mines in the state.

The Alabama legislature has under consideration a bill creating a commission with sweeping powers, to change the operators' methods of mining, to fix wages, establish the working day and living conditions, prohibiting the cessation of operations, requiring that all operators shall procure a license and requiring reports giving in minute detail whatever information the commission may require. We can easily predict that the operation of such laws will be disastrous to the coal mining industry in these states and will work hardship and disaster to all those who depend upon these mines for their fuel supply.

TAKING THE LOSS

The prices of world products at the close of the war and for a considerable time thereafter remained at a level the highest in the history of modern days.

These prices have increased more than 100 per cent since 1914. In other words, the enormous stock of materials and supplies were accounted to be worth double as much as similar stock would have been accounted in 1914.

It was generally recognized that sooner or later this price level must fall and the underlying and fundamental reason not considered by the majority was the fact that the world's gold supply, which is the measure of all values, had not increased during that period; and that these enhanced values were based upon credits and credit money in greater amount than the gold reserves could continuously maintain.

Without a recognition of the technical distinctions as to the real function performed by the gold reserve, it remains a recognized fact that there must be some stable relation between gold reserves and prices. This is undoubtedly true in world trade no matter what temporary expedients of bank and money credit may be established by any country.

It is admitted and expected that prices must fall to a much lower level. The holder of goods at the time of that price decline must necessarily stand this loss. These reductions are being resisted at every point by the holder of goods and many schemes are being devised by which prices may be maintained. The justice of this proposal is apparent as applied to property purchased at the high prices, but it must be remembered that those whose stocks of goods were purchased at the pre-war price, and who took advantage of the increase in the value of their holdings, should not complain if upon their replaced stocks of goods they are now forced to take a loss.

The producers of the country as a whole were permitted to roll in undreamed of wealth by a theoretical profit gained by this advance in prices. These same men must now expect to suffer a corresponding loss. The readjustment period is only a period of taking losses, the fortunate circumstance being that it is not at all probable that prices will ever reach the pre-war level

and therefore the appreciation in value of the world's supply of goods from 100 per cent to 200 per cent will still leave a profit in the hands of property owners when those same prices retreat from 200 per cent to 125 or 150 per cent, the level which is likely to be reached in the final readjustment of our nation's business.

PRICE FIXING IDIOCY

The struggle against the operation of inexorable laws goes bravely on. Mental pigmies continually undertake to revise the plan of the universe. These protest against alleged injustices, exhaust their resources and withdraw again to the bottom of their well of mediocrity from which they can see the distant star but from which they can have no conception of the remaining and overwhelmingly comprehensive parts of the universe. A scarcity of spice at the breakfast table arouses these self-appraised wise men to what they regard as a necessity for revolutionizing the comprehensive business structure developed by the law of supply and demand, by which the spices of Arabia, through the devious and comprehensive systems of exchange, are made available at the corner grocery. A world upheaval which dislocates (?) this long chain of operations at any one point is proof that the whole system of production, transportation and exchange should be reorganized by legislative or administrative order. The temporary failure at a single point of this wonderfully complex world distribution system is sufficient reason to their mind for drastic interference with the laws which have and still supply the other hundreds of necessities and luxuries from the productive marts of the world. The laws of gravity and of supply and demand operate effectually and satisfactorily except where they are interfered with by visionaries who from the bottom of the well can see a single star only and who believe that because of that vision they are qualified from that point to better observe the mi-

verse than he who stands upon the mountain top.

If ever a justification existed for price fixing it is to be found in those conditions created by the world war, but every effort by the federal government in that behalf proved abortive. Notwithstanding the bitter experiences which the nation has suffered because of governmental interferences with natural laws, we still find the mental pigmies in national and state affairs undertaking to right temporary disturbances of inexorable laws by the foolish expedient of price fixing. The purpose of the Sherman Anti-Trust Law was to prevent interference by concerted effort with the law of supply and demand. The National Coal Association very properly refused to join in an agreement to keep down the price of coal.

The legislature of the state of Indiana has made its effort in this behalf. Alabama has this matter under consideration. The United States grand juries in certain parts of the country have also assumed a superior wisdom; the Department of Justice of the United States even believes that it may, by the process of indictment, prevent business men from selling their goods at the best price obtainable. If these wisecrackers could but see for a moment that a sane statement of the actual facts existing and absolute liberty of the individual to act independently of all other influences is the surest and safest method by which prices of any sort shall be brought to a proper level, except in those rare cases where either the supply is controlled by a monopoly or where the machinery of production has not been properly developed! Given a sufficient supply and a high price, the machinery of production will always be quickly developed in order to take advantage of the high market price; and, upon the other hand, a falling of prices below a proper level will quickly put out of commission the machinery of production so as to lessen the supply to a point where a scarcity will create higher price levels. In other words, the law of supply and demand is the one and only law to which we may look for

a solution of the consumer's difficulties. The writer does not know of a single effort looking to price fixing which has not resulted in great inconvenience if not in disaster. There is but one product in which governmental regulation of prices is justified and that justification is based upon the fact that gold being the foundation of our business transactions must be stabilized without reference to its effect upon the industry which produces it. The fixing of the price of gold is justified and necessary in the public welfare. Every other price fixing device of whatever nature or kind will come back to plague those who are responsible for it and work interminable confusion to the consuming public.

A LITTLE KNOWLEDGE

Forty adventurous Englishmen, "weary of fiscal oppression," have chartered a schooner and will sail from London within the month in quest of a "taxless paradise" in the South Seas, or so the story goes.

No grave significance attaches to the junket. It is probably simply an escape from the post-war ennui of London club life. An uninhabited isle these wealthy explorers may find, and obtain temporary immunity from tax collectors by sacrificing the advantages purchased by taxes, but it is not likely to cause a general hegira.

Yet there are many who, caught in the mathematical and sometimes astronomical mazes of our tax systems, have craved a similar opportunity. The banker Kahn tells of one business man who has been forced by State and Federal tax measures, and at the call of the bewildering variety of commissions created in recent years, to furnish not less than 109 different reports. The actual cost thereof is given at \$14,000 per annum, aside from the value of the executive's time.

"Efficiency Edgars" are running amuck in governmental bureaus as well as in industry, the latitudinal authority frequently given to incompetents providing a proving ground for their theo-

retical off-shoots. It is true, of course, that the many and diverse forms issued by the Revenue Bureau are necessary to make the present federal revenue laws workable at all, but elsewhere we find an unnecessary multiplicity of requirements.

It is this situation that has made the general sales or turnover tax so captivating at first inspection to the average business man. Its fallacies appear upon analysis, but federal taxation has become such a highly technical branch of political economy that the average business man has not sufficient time to enter its highways and byways, with the result that first and casual impressions wield a dangerous influence.

One of the most ardent advocates of the general flat-rate sales tax has recently called attention to the success of the "sales tax" in Canada.

Among the principal proponents of the general sales or turnover tax are the manufacturers and retailers of jewelry, dry goods, sporting goods, candy and so on, which commodities are subjected at present to special taxes. These merchants ask for the repeal of "luxury taxes" and the substitution of a 1 per cent or $1\frac{1}{2}$ per cent tax upon the turnover of all merchandise and services, essential as well as non-essential. In their pride of argument they point out that "there is no better way of refuting the objections urged against this tax than by pointing to its success in France and Canada. It has produced no sense of grievance or hardship on the general public."

The American Mining Congress has been giving careful consideration to the Canadian taxes for some time, and is interested to hear of the success of the system. A brief description of the Canadian "sales tax" may prove interesting.

The Canadian law of July 1, 1920, amends the Special War Revenue Act of 1915. It provides, in addition to retention and extension of heavy excise taxes upon non-essentials, for a tax of 1 per cent upon sales and deliveries by manufacturers, wholesalers and jobbers, and upon duty paid value of importa-

tions, and tax of 2 per cent upon sales by manufacturers to retailers or consumers or on importations by retailers or consumers. However, virtually all prime essentials of life are exempted from tax of any nature. The limited sales tax is in addition to luxury taxes that make the present excises in the United States seem puny and negligible in comparison.

Sumptuary taxes are ever popular with the voting majority, and the reported success of the Canadian limited sales tax is due largely to the many exemptions and the continued heavy levies upon luxuries.

The glee of the sales tax supporters over the operation of the foreign "sales taxes" may be short-lived when the fallacy of the attempted analogy is exposed. In one breath they proclaim their opposition to special taxes and refer proudly to the record of systems which after all are essentially sumptuary measures. A little knowledge is a dangerous thing.

INTERNATIONAL HONESTY

It is somewhat surprising that men of prominence in the United States can be found who advocate that the debt of European countries to the United States should be cancelled. It is more surprising still that any should be found willing to advocate this as a business advantage. While there may be some justification on moral and sympathetic grounds, it seems strange that any nation having accomplished the financial supremacy of the world should willingly surrender that advantage.

That advantage consists of the right to collect from European countries a debt, payable in gold, which equals the total gold supply in the world. That debt never can be paid and those nations owing that debt must continuously pay tribute to the United States. The United States has ceased to be the vassal of any other nation in the world, an advantage which will not be surrendered voluntarily by this country, nor will it be lost involuntarily except this

nation shall cease to work and produce to its capacity and shall barter away its birthright in order to maintain itself in luxury and idleness. If the American people shall permit this condition their fate will not be undeserved.

Republican government is still an experiment but one which the better sense and the higher regard for justice of the American people will continue to make effective as the best form of government for intelligent human beings which the world has or can produce. Let us stand by our rights, by our constitution and our laws. Let us protect representative government; let us trust in God; but always keep our powder dry. Let us be honest with ourselves as well as honest with the nations of the world.

A PROTECTIVE TARIFF

The American Mining Congress is not a political organization. It studiously avoids discussion of any subject from a partisan standpoint. Its advocacy of the principle of protection has at times brought its non-partisanship into question because of the fact that one of the great parties stands for a protective tariff and the other for tariff for revenue only. The American Mining Congress has believed that the American producer should have the benefit of the American market on equal terms with foreign competitors. It has never asked a prohibitive tariff but only such protection as enables the American producer to meet his foreign competitor on equal terms in the American market. Given this condition, if the American producer is not able to hold the domestic market, it is proof that he needs to revise the management of his business. As an example, Chinese tungsten is mined with labor costing 10 or 15 cents per day, equally efficient with labor in this country costing \$3.50 to \$4.00 per day, while the cost of transportation of that product by water to our seaboard is less than the cost of transportation from the Rocky Mountain states to the point of consumption. This condition

requires that such a duty be levied as will measure the differences between those costs as applied to each unit of the article to be produced. In other words, a compensatory tariff.

The recent protective tariff convention in New Orleans, managed and supported by Democratic senators and congressmen, is a justification of the attitude of the American Mining Congress. In the sugar producing state of Louisiana it is plainly evident that cheap labor in foreign sugar producing countries makes it impossible for its sugar industry to meet that competition without a compensatory tariff. That the north and south have disagreed upon the subject of a protective tariff was simply an expression of the fact that the north was a section of industrial production, paying high wages for its labor, while the south produced raw materials only and could benefit by the cheapest manufacturing production which the world could furnish. The south is witnessing a marvelous industrial development. To the extent of this development will the south justify the American Mining Congress in its advocacy of conditions which will permit the efficient American producer to meet on equal terms in the American market all foreign competition.

MINING THE GREATEST INDUSTRY

Fifty-two per cent of all carload freight shipped during January, February and March of this year consisted of the raw products of American mines.

This is a short paragraph, but a weighty one. Nothing bigger has been printed since the cables flashed the news that the armistice had been signed. Its importance would not be over-emphasized if it was heralded in streamers over the top of the front page of every newspaper in the country.

American citizens, business men and laboring men, especially mine owners, Congressmen and Senators, would do well to think about it, and to think

long and earnestly about it and let its surpassing significance sink in.

Measured by the tonnage it produces, the mining industry is the biggest industry in this country, and therefore in the world.

For every ton of farm products transported during these three winter months when appetites are healthiest there were shipped four and one-half tons from the mines. Shipments of mine products were two and one-fifth times greater than shipments of all manufactured articles combined, five times greater than shipments of forest products and twenty-one and nine-tenths times greater than shipments of meat and other animal products.

Tonnage of iron ore alone was greater than that of wheat or corn or of flour and meal combined, almost three times greater than cotton and eleven and four-fifths times greater than tobacco—greater than all shipments of any single group of agricultural products falling into any one classification. The same may be said with respect to shipments of other ores and concentrates.

Shipments of base bullion and matte, or of salt, alone were greater than those of tobacco, the raising of which is the chief vocation in life of many of the richest planters who make a business of tilling some of the richest soil in America.

A single branch of the mining industry, that of soft coal, produced nearly three times as much tonnage as all the farms in America, more than three times that of all the forests, fourteen times that of all hog, cattle, sheep, goat and poultry raisers, wool producers and hide and leather manufacturers combined, and nearly half again as much as all the factories, large and small, in the United States.

Not only did the mines provide more tonnage than all other industries combined, but they provided the most important tonnage. If the railroads had not carried a single ton of wheat, our feelings would have been fractured but our health would not have been hurt. Mr. Hoover knows this, and would know it even if he were not a mining

engineer. We could have survived without tobacco, as the W. C. T. U. will readily testify. Thousands of vegetarians will assert the stoppage of transportation of all animal products intended for food would exert a beneficial effect upon the stature and the stamina of every citizen. Millions of men who intend to buy woolen suits this winter would be glad to know that no cotton was transported last winter.

But the stoppage of transportation for three months of any one of the major products of the mines would have reacted seriously, if not fatally, upon the men, women and business affairs of the United States. Stop shipping coal for three months and every rail would rust, every factory would close down, millions of people would freeze and the income tax collector would have nobody to deal with except the undertakers and the fee-paid officers of the bankruptcy courts. Stop the production and transportation of petroleum for three months and you make it impossible for any one to take a joy-ride or defeat the high cost of living by getting his last winter's suit dry cleaned. Eliminate the transportation of clay, gravel, sand and stone and the construction and repair of residences and business buildings, and most of the streets and roads leading from the one to the other, would end automatically. A salt famine would cause more inconvenience and more indigestion than a sugar shortage. Coke is more indispensable than cattle and petroleum than poultry. There are no workable substitutes for any of the great major products of the mines. Their continued transportation during January, February and March, 1920, was necessary to the very existence of every business and the very life of a large proportion of the country's inhabitants, and so will it be with all mine products for many years to come.

Such is the relative size, and such is the comparative importance, of the great mining industry of America. But its size and importance are not generally realized and still less universally are they appreciated. Schoolbooks contain nothing about it, newspapers say

comparatively little about it, statesmen frequently care less than nothing about it. The government maintains a Department of Agriculture, with sixteen divisions, for the benefit of the farming industry, while the mining industry is handled by one bureau of the Interior Department, being placed on a par in this respect with Indian affairs, pensions, patents, hospitals of the District of Columbia, the supervision of buildings at the Capital and the administration of affairs in distant Hawaii. Preachers pray that the rain may fall gently and plentifully on the growing crops, but without including a respectful stipulation that the same rain may not flood a gold mine or wash away a coal tippie or irrigate an oil field.

Perhaps the chief reason why every school boy and girl does not know that the mines produce more original tonnage and a larger quantity of lasting wealth than all the farms and factories is that the mine owners themselves have not been sufficiently aggressive and self-assertive. They have not fully realized their own importance, or, realizing it, have not at all times exerted their strength in unison. Farmers have been known to influence legislation. Wheat growers have had something to say about national enactments upon one or two occasions and cotton raisers in quiet and peaceful times have displayed an ability to fire a few verbal volleys easily heard around the world. If the mine owners made as much noise as the farmers, in proportion to the railroad tonnage they originate, the whole country would think the American Mining Congress was about to meet in Washington, instead of Denver, and that the Congress of the United States was merely one of its subcommittees.

Fortunately, a change has set in. The mining industry, to a far greater degree than formerly, recognizes its importance and its right to be heard. The American Mining Congress is larger than ever before. Its membership, continually increasing, speaks to the world with one voice and commands a most respectful hearing. The industry asks no subsidies, no favors, but even-handed

justice based on a recognition of its size and indispensability. It is well, therefore, that every mine owner consider fully this latest tonnage report of the Interstate Commerce Commission and that he call its significance to the attention of every man and woman of his acquaintance, that he talk to his chamber of commerce about it, write to the editor of his favorite newspaper about it and make certain that his Congressman and his Senators and his representatives in the state legislature know about it. The public, no less than the mine owner, will benefit by coming to a realization of the fact that mining is the biggest industry in the United States.

WHAT THE McFADDEN BILL DOES NOT DO

It is amazing that opponents of measures proposed for congressional enactment do not always take the time to read them, or, reading them, fail utterly to comprehend their meaning. It is particularly amazing that the *Wall Street Journal*, devoted exclusively to financial matters, should exhibit such a lack of understanding of the provisions of the McFadden Bill. Any one familiar with the McFadden Bill who reads the article entitled "A Bad Subsidy" printed recently in the "Review and Outlook" column of the *Wall Street Journal*, will know at once that the writer either had not read the McFadden Bill or that if he did read it he failed to understand it.

The *Wall Street Journal* condemns the McFadden Bill on the three-fold count of being a measure for price fixing, creating a subsidy and interfering with the law of supply and demand. It opposes all governmental price fixing, but overlooks the circumstance that gold is already a price-fixed commodity, and will undoubtedly and must inevitably remain a price-fixed commodity so long as it remains the basis of money. The government has fixed its price at \$20.67 an ounce, destroying the operation of the law of supply and demand.

Purchasers of gold never pay less, because this is the lowest price for which it is obtainable, and never pay more so long as they are able to secure an abundant supply for this price by patronizing the government.

The *Wall Street Journal* stoutly maintains its opposition to price fixing, and in the same article contends not only for a continuation of price fixing on gold, but for the maintenance of a fixed price which is below the cost of production and which manifestly must annul the law of supply and demand.

As for the charge that the McFadden Bill subsidizes the producer of gold, the facts are exactly the reverse. The gold consumer is now subsidized. Instead of providing a subsidy for the producer, the McFadden Bill merely lessens the subsidy which the consumer now enjoys.

But the full effect of the *Journal* writer's failure to read, or to understand, the McFadden Bill is seen best in the closing paragraph of his article, which is as follows:

"It is needless to say that the users of gold in the arts would manufacture anything but the American product. If the tax were put upon all gold, irrespective of origin, this would be a direct endowment of the South African gold mines out of the American taxpayer's pocket, with nothing to show for it. A corresponding import tax on gold would be rank insanity."

The McFadden Bill does not levy a tax on American gold. It does not levy a tax on foreign gold. It does levy a tax on all gold which is used for manufacturing purposes, the tax being collectible from the consumer at the time he purchases the manufactured article. It makes no difference whence the gold comes which is sold to the manufacturer. Whether it be from the destruction of coin or from a foreign gold producer or elsewhere, the industrial consumer will pay the excise of fifty cents per pennyweight only at the time the manufactured article is sold. There would, therefore, be no premium market in which the producers of foreign gold

could participate or in which the hoarders of old gold could speculate. A free gold market would still be maintained, for the reason that the excise tax would be collected only upon the finished product when sold and not upon the bullion when sold to the manufacturer.

A WORTHY POSITION

The needs of any industry should not at any time be made the subject of political controversy. In so doing vital facts are often obscured in the heat of political argument. When a large basic industry is the subject of political attack it is in a peculiarly helpless situation, for at every attempt to reply it is met with the accusation of attempting to dictate political issues. Therefore the newest chapter of the American Mining Congress, the New Mexico Chapter, is especially to be commended in its unpartisan attitude in the face of a political fight made upon it, in which had the mining industry of the state replied in kind would have brought it into a most unwelcome political controversy. The New Mexico Chapter has instead in a dignified appeal through the press of the state asked that the needs of the mining industry, the basic source of wealth for the state, be forever removed from state politics, in justice both to the high ideals of state politics and to the needs of the industry itself.

We can imagine no fairer request, no more dignified attitude and no procedure which would result more for the permanent good both of the industry and of the state government.

STATE MINE TAXATION

The so-called ad valorem basis of taxation for mining property is not economically sound as comparable to the same basis of taxation for real estate holdings or agricultural lands because the value which is potential in the mining property can be realized but once. As long as it has ore in the ground it

is not usable wealth. When the miner produces it it becomes of value, it is sold and thereafter can never be of value to that piece of property again. A real estate holding under normal conditions yields an annual income and has an appreciation in value annually regardless of the income it has yielded. A farm normally yields an annual crop and has at the same time an increase in land value which is not affected by the return from the crops. In short, the normal real estate holding shows an income and at the same time has an increase in base value. A mine can only show income by depletion of its fixed value.

Not only is the mining business different in its entire procedure from ordinary business but the nature of its operation and of its reserves of raw material and of the product of its operations are all so different that it is easily comprehended why the basis of taxation of the mining industry should be on a different scale than applies either to other business, to real estate holdings, or to manufacturing enterprises. The product of agriculture is all consumed within the year following its production, not a vestige of it remains as wealth. The product of metal mines enters into the construction of all permanent wealth and all permanent sources of taxation. The product of these mines becomes motor cars, watches, locomotives, electric machinery, fabricated steel ships, hundreds of thousands of miles of steel railway; all permanent wealth which is taxed over and over again. This is but one of the differences which makes necessary a different basis of taxes for mine holdings than for ordinary real estate.

IS THIS A LIBEL

Headlines are the deadly weapons with which newspapers are wont to color news dispatches, and sometimes to entirely distort the impression upon the casual reader which a more careful study of the text of the dispatch would show to be without foundation. As an example only and not because this character of press notice is unusual, the *New York Times*, in its issue of October 17, displays a headline carrying these words, "Strikers Attack Mine After

Using Dynamite." Then follows a press dispatch as follows:

Morgantown, W. Va., Oct. 17.—The tippie and the entrance to the Rockford coal mine of the Connelsville Basin Coal and Coke Company at Rockford, W. Va., near here, were badly damaged by an explosion of dynamite just before midnight tonight. Twelve men at work in the mine escaped injury.

Soon after the explosion the power house of the coal company was attacked. Many shots were fired. The sound of the shooting and the explosion attracted non-union miners employed by the company, and they quickly assembled.

In the fight which followed it is believed that one of the men of the attacking party was either killed or badly wounded as he was carried away by some of his companions when they were finally driven off.

A detachment of state police stationed at this place was informed of the raid and sent a squad of men to the scene. They scoured the country in search of the attackers, but it is not known whether any arrests were made.

Just a few days later the following dispatch found place in many papers:

Williamson, W. Va., Oct. 23 (by the Associated Press).—John Yates, superintendent of the Gates mine of the Crystal Block Mining Company, was shot and killed by unknown persons this morning while walking along the Mingo county road near the company store at Gates, 10 miles east of Williamson, according to reports received here.

Federal troops on duty in the Mingo county strike zone immediately were sent from Sprigg, near Gates, to establish patrols in the woods which flank the road and from which the shots came. Bloodhounds also were hurried from Williamson to the scene in an effort to trace those responsible for the shooting.

S. U. G. Rhoades, former prosecuting attorney of Mingo county, was dragged from his mule at Devon, W. Va., last night and shot in the face with a rifle, after addressing a political meeting at Beech Creek, near Devon.

These quotations are not unusual. Such reports may be expected from every section where a strike is in progress. They record the usual type of occurrences. And almost always where arrests are made the attorneys of the organized labor movement appear for the defendants. There is nothing improper about that. Every man charged

with crime is entitled to the most complete defense which can be distorted from the facts. Better always that the guilty shall go unpunished than that the innocent shall be punished. But the fact furnishes a link in a discreditable chain of events.

A Westerner, perhaps a little radical, states the question this way:

"Organized labor cannot prosper without strikes and strikes cannot succeed without bloodshed or destruction of property, and there you are."

Is this statement a libel upon organized labor? Are the inferences to be drawn from the headlines of news items describing strike contests unfair to organized labor? If not, then organized labor must purge itself or finally lose the respect of all fair-minded citizens. It may be said that all strikes do not result in disorder, but it seems to be a fact that disorder always follows every long continued strike and every effort to operate by the use of new employes. And when police protection is given to prevent such disorder the cry is raised against "thugs and gunmen," and their presence as police officers furnishes ample excuse for lawlessness. Usually the gunmen are the first to lose their lives. Those being assaulted seem always to have the advantage. At least the published reports so indicate. Is this inference unfair, or does organized labor need to purge itself?

FINANCIAL REVIEW OF THE MONTH

The three outstanding features of industrial and financial development in the past thirty days have been, first the serious financial situation in Cuba brought about by the previous loans of leading Cuban banks to speculators in sugar and to producers of sugar who pledged their sugar stocks at the high prices prevalent six months ago.

Second, the official appeal of farm and grange organizations to the Treasury Department for increased credits to facilitate the movement of

crops in grain growing districts and to finance the holdings of crops for stable prices. Stable prices in this instance meaning the maintaining of prices at as near their present levels as possible.

Third, the coal strike in Great Britain, which has had both a sympathetic effect on local markets as a disturbing labor element and has caused revision of prices in all activities associated with British trade. Yet none of these developments have been sufficient to cause the wide fluctuation in prices to which we have been accustomed in the market previously.

In reply to the request of the farm organizations the Secretary of the Treasury pointed out that the present credit extended to the agricultural area is about six times the amount formerly deposited by the Treasury to facilitate crop movement, and that further credits for agricultural needs could not be granted. He also made it clear that no credits could be granted the purpose of which was to maintain high prices in any commodity at any stage of its necessary financing. The liquidation looked for through the federal reserve bank is proceeding in a normal manner. Government bonds have had substantial increases from their lows of last summer, the Fourth 4½s being quoted around \$90.00. The advice given unanimously in the market six months ago to sell industrials and buy rails has proved sound, Reading having gone above par and scored an advance over the summer's low of more than twenty points. The copper stocks are still heavy, due largely to their large invoices of finished metal still remaining unsold. Modern copper mining is somewhat of a manufacturing enterprise. It can oversupply its market at its peak of possible production. Electrification of railroads, which has taken hold in the west and in congested terminals in the east, is bound to be the ultimate development of the use of coal or water power as the motive force for railroads. This development will put an increasing demand on even the great potential production of our copper mines.

There is a marked recession in the

unreasonable attitude of labor which grew out of the war and an increased labor efficiency due to the knowledge that there are now more men than jobs. If the ratio of labor efficiency increases with the lowering of labor demand it will be possible to maintain high wages longer than under the wasteful war time methods of production. There has been a substantial increase in the buying of established bond issues, there being even a great deal of speculative buying of bonds on margin by investors who sold their marginal holding in industrial stocks.

The position of the petroleum stocks has not been subject to much change, possibly because the natural decline which they would share with the motor stocks has been offset by the continued excess of the demand over supply of all petroleum products. The succeeding readjustments of our financial situation will doubtless be minor in their strength as compared to some of the serious jolts our financial system has received in the last year. It is evident that we have gone too far with our orderly deflation in our period of readjustment for there still to remain the possibility in the further readjustment of anything approaching a panic condition. After having put on the brakes for a year it is possible to expect soon a renewing confidence which will permit a slow increase of speed in our financial machinery.

A GRATIFYING MOVEMENT TOWARD COOPERATION.

One of the gratifying pages of the present year's history in mining development is that which looks to a closer working relation between the American Institute of Mining and Metallurgical Engineers and the American Mining Congress.

The Institute has made for itself a brilliant history. Its early operations were directed by Dr. R. W. Raymond, whose master mind guided its destinies from very small beginnings to an organization with several thousand members comprising the great majority of

mining engineers in the United States with many foreign memberships. During the great part of its history the Institute confined itself entirely to the purposes for which it was incorporated, namely:

"To promote the arts and sciences connected with the economic production of the useful minerals and metals and the welfare of those employed in these industries by means of meetings for social intercourse, and the reading and discussion of professional papers, and to circulate by means of publications among its members the information thus obtained; and to establish and maintain a place of meeting for its members and a hall for the reading of papers and delivery of addresses, and a library of books, relating to subjects cognate to the sciences and arts of mining and metallurgy."

With the enormous growth of the association and the increasing problems of a public nature, more or less controlled by governmental agencies, the disposition to enlist upon one side or the other of controversial questions developed as the public-spirited members of the organization realized the necessity of registering their personal influence in behalf of such measures as would benefit in a broad way the public interests and more directly the mining industry.

There was, however, a preponderant objection to having the Institute depart from the plans through which its growth had been accomplished and by which it had attained possession of such commanding influence in the technical and educational mining world. The necessity for action along economic lines led to the development of the American Mining Congress and the creation of machinery by which all of these aspirations might find expression. Unfortunately, as the writer believes, all of the members of the Institute who felt a disposition to assist in public affairs did not ally themselves with the American Mining Congress, but rather undertook to induce the Institute to occupy this field. There were, however, a very large number of the members of the Institute who associated themselves with the Mining Congress and who have been ac-

tively engaged through that organization in making effective the economic and legislative aspirations for mining betterment. This situation left the Mining Congress without the support of many men whose influence would be of great advantage in carrying on its work and during recent years has led to some duplications of effort.

In order to bring about a more perfect working relation between the two organizations and to prevent possible duplication of effort, the following letter was addressed to Mr. Herbert Hoover, immediately after his election to the presidency of the Institute:

Washington, D. C., March 13, 1920.

Mr. Herbert Hoover, Esq., President, American Institute of Mining and Metallurgical Engineers, Washington, D. C.

MY DEAR MR. HOOVER:

We are very anxious that there shall be closer working relation between your great organization and the American Mining Congress, and a better understanding as to the field in which each should function, in order that duplication of effort shall be avoided and that concentrated and comprehensive co-operative effort shall be applied to every undertaking by either organization for the benefit of the mining industry.

The writer has always believed that the American Institute should largely follow the precedents upon which its success has been attained; that it should remain an investigating, scientific organization, devoted to research, discussion and more intimate social relations among its members; that it should keep out of fields of controversy, because disputed questions attract followers to the different sides and necessarily create antagonisms which weaken the organization.

The American Mining Congress has always been a fighting organization. Its assumption of leadership in controversial questions has been its chief weakness and perhaps also its greatest strength. While it has made careful effort to arrive at fair determination as to the best course to follow, it has followed that course with vigor and in most instances with effect; its membership has been weakened by the loss of those who could not follow its leadership, who have been replaced by still larger numbers who did support its contention.

A few years ago certain members organized the Mining and Metallurgical Society of America, as a means through which they

might function in controversial matters. The institute, perhaps fearing further defections, began to revise its policies so as to keep within its folds those who desire the organization to take a positive stand upon disputed questions.

Our belief has at all times been that those members of the American Institute who desire to take part in controversial questions should ally themselves with the American Mining Congress and work through that organization to accomplish their purposes without detracting from the long, successful and dignified professional character of the institute. We still believe that this is the policy which should be pursued by the two organizations.

In view of the fact that the Institute has elected to take positive action, however, we feel there should be some understanding between the organizations so that efforts begun by one organization shall not be entered upon by the other, thus creating rivalry between the organizations and preventing the greatest success of either.

To this end, we suggest that a committee representing each of the organizations be selected, to work out a plan of co-operation through which there shall be no duplication of effort and the united support of both organizations shall be put behind any movement which both organizations shall approve.

If the above plan meets your approval the writer will be glad to confer with you personally, with a view to working out the details of the work of such committee and of defining more clearly the function which each should undertake.

Wishing for your administration the highest success and expressing personal appreciation of the fact that you have undertaken the presidency of the Institute, we are, with kindest regards,

Very truly yours,

J. F. CALLBREATH,
Secretary.

As a result of this communication, Mr. Hoover appointed to represent the Institute a committee consisting of Mr. Walter Douglas, Mr. E. P. Mathewson and Mr. Samuel A. Taylor. The mutual interest of the two organizations and the existent friendly feeling were made manifest by the selection of three members of the Board of Directors of the American Mining Congress, among whom were two of its past presidents. These gentlemen felt some little embarrassment in representing the Institute and asked to be excused from serv-

ice upon the committee. Because of these objections the Secretary of the Mining Congress was asked to attend a meeting of the Directors of the Institute at which most friendly expressions of accord were made by those present, and while full confidence was expressed in any action of this committee in behalf of the Institute, but in order to meet in part the objection of the committee, a resolution was approved adding three members to the Institute committee, which was carried out by the appointment of Messrs. Edwin Ludlow, W. L. Saunders and Benjamin B. Thayer. On behalf of the American Mining Congress the following committee was appointed: Messrs. J. R. Finlay, W. R. Ingalls, A. C. Morrison, Henry M. Payne, Josiah E. Spurr and Daniel B. Wentz.

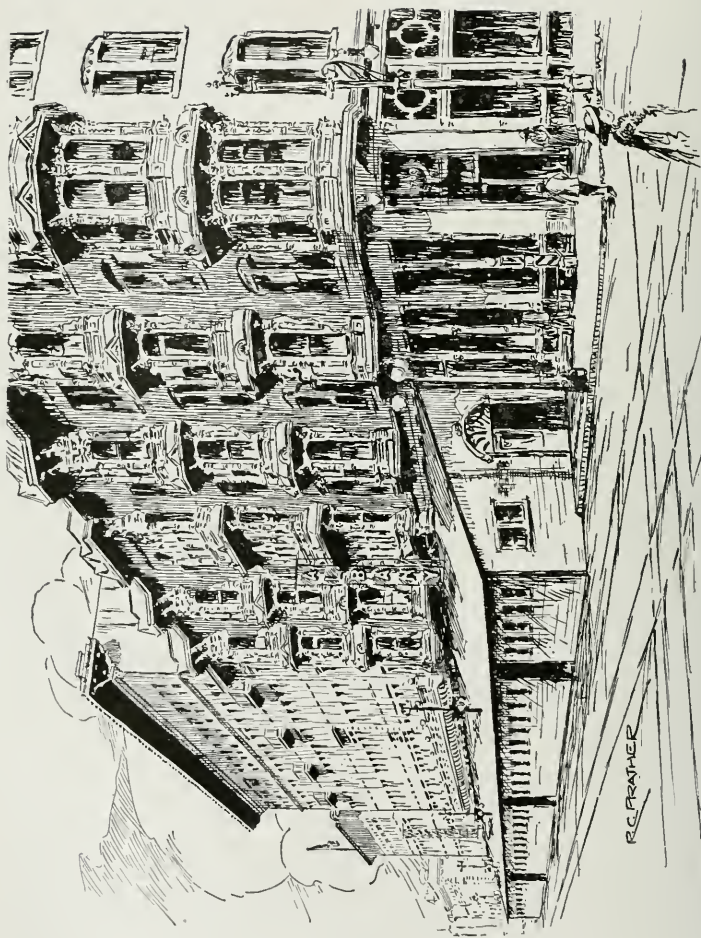
Upon the invitation of President Hoover of the Institute, this committee, together with President Wells of the Mining Congress and Messrs. Bradley Stoughton and J. F. Callbreath, secretaries of the two organizations, met at a dinner at the Engineers' Club, New York City, September 13, 1920. The discussion was led by Mr. Hoover, followed by Mr. Wells and participated in by the other members, in which the most complete harmony prevailed and the general expression that the most complete cooperation should and must prevail between the two organizations in behalf of legislative and administrative work affecting the practical operations of the mining industry. It was outlined that the rapidly increasing membership of the Institute furnishes ample testimony of the constructive service which is being rendered by that organization, not only to the Institute membership but to the industry at large. On the other hand, it was shown that the American Mining Congress through its legislative achievements has rendered a service in a legislative and administrative way which has been valuable to the industry. It was outlined that the machinery of the Mining Congress has been developed to serve these legislative and governmental adminis-

trative requirements and that it desires to render a practical service to the industry and that it has been most careful to avoid the expansion of its activities into fields covered by other organizations, its legislative and administrative successes having been premised upon this concentration of purpose.

As a result of this discussion the committee was increased by adding the names of the presidents and secretaries of the two organizations, and a resolution adopted creating this enlarged membership a permanent committee to coordinate the activities of the Congress and the Institute in respect to legislative work relating to the industry.

Mr. Walter Douglas was selected as Chairman of the committee and Mr. Bradley Stoughton as Secretary. An outline of the proposals now receiving the attention of the American Mining Congress was given, including the formulation of a revenue producing tax law which shall supply the deficiency resulting in expected reduction in excess profit taxes; action looking to the maintenance of the country's gold reserves as a basis of its national credit and incidentally as a stimulation to the gold mining industry; action looking to the right of appeal to the Court of Claims from the decision of the War Minerals Relief Commission, and other efforts looking to the permanent development of the so-called war minerals; the maintenance of adequate statistical service to the mining industry; and the standardization of mining equipment.

Further discussion covered the necessity of the prevention of duplication in the work on behalf of the mining industry by the various governmental bureaus and the expressed belief that the mining industry should, after careful deliberation, formulate a statement of its needs, select the agency which is best adapted to perform that service, and present to Congress the request of the industry for such appropriations as will permit the selected agency to perform such service.



THE ALBANY HOTEL, HEADQUARTERS FOR THE CONVENTION, AND
TEMPORARY EXPOSITION BUILDING ADJOINING.

THE TWENTY-THIRD ANNUAL MINING CONGRESS CONVENTION

By JOHN T. BURNS,

Assistant Secretary, American Mining Congress.

With a full realization of the responsibilities resting upon the American Mining Congress during the present crisis in national affairs, Chairman Branton and his associates on the Advisory Program Committee have prepared a program which will make the Twenty-third Annual Convention a memorable success.

Always, the conventions of this organization have been marked for their earnestness of purpose and far-sighted policies as to national and western affairs; but this year, with the industrial situation fraught with possibilities never before experienced in America, the framers of the program have approached the problems with great care and thoughtfulness.

There is need for a cleansing of the labor situation; there is need for a sane legislative policy; justice must be secured for hundreds of men who suffered financial losses through failure of the government agencies to carry out war agreements; there is need for tariff protection to develop certain war material which may mean national salvation in an hour to come.

The cumbersome and restrictive provisions of the present "excess profits tax law" must be remodelled to allow resumption of development work; the much needed national movement to standardize mining practice, accounting, codes and machinery, must be promoted; the cold, hard facts as to the practices of that great controller of flotation methods, Minerals Separation, Ltd., must be given to the public; the national menace which threatens to eliminate American gold production as an element of the mining industry must be placed before Congress; the demands of labor radicals and radicals who are honest enough to eschew the labor excuse in their disregard for law, order and property rights must be clearly placed before a long-suffering public.

All these subjects, and more, are included in the five-day convention which opens in Denver, November 15.

Nation's Leaders Coming.

John Barton Payne, Secretary of the Interior, will either be present or will be represented by a member of his staff.

Director Cottrell of the Bureau of Mines, Director Smith of the Geological Survey and Director Stratton of the Bureau of Standards will be active participants in the conferences.

Governor Oliver H. Shoup of Colorado, honorary chairman of the convention, has personally invited many governors and members of the Senate and House and a notable gathering of these administrative and law-making officers will be present.

Governor Henry J. Allen of Kansas will give an address on "The Right of Labor to Strike" and tell the operators present of the

moral and political effect of the Kansas Industrial Court.

One of the most distinguished guests of the week will be Dr. Charles A. Eaton, editor of Leslie's Magazine, whose writing has done much to encourage national sanity during the past year. Dr. Eaton will discuss "Present and Future Relations Between Capital and Labor."

Dr. W. R. Ingalls, editor of the *Annalist*, has been invited to discuss "The Distribution of the Fruits of Labor," a subject upon which he has written with unusually deep vision into the industrial problem.

Governor Emmett D. Boyle of Nevada will participate in the national gold conference and also in the general program.

Several leading producers of bituminous

and anthracite coal and of the metals will discuss the turbulent history of 1920 in the industry, the elements of peace and war and causes of costs and losses.

Engineers, managers and owners will assemble, prepared for the first time in years to concentrate upon their problems and to frame a declaration of principles upon which the mining industry must stand or fall, from this time forward.

It is not possible to publish the program at this time. It can only be said that the week will be a busy one, a week of real work for busy men of affairs who will rally to the center of activity with little else in mind than a determination to face and frankly discuss the present day discouragements in what normally should be the greatest of America's basic industries.

Last Year and This.

Although this article is prepared thirty days before the opening date of the convention, a large number of advance reservations have been recorded in the Denver hotels and information given to the writer by railroad men indicates a very large attendance.

In making a preliminary comparison of the situation as between the twenty-second and twenty-third annual conventions, the promotion efforts of the Colorado committee should bring far greater results than those of the Missouri committee, and this is based upon the following facts:

Last year was the first year of convention activities following the great war and men had fallen out of the habit of assembling for national meetings of any kind other than military. The invitation list last year comprised a total of 8,000 engineers, managers, mine owners, public officials and officials of commercial bodies. The total registration of delegates not including exhibitors exceeded 1,000. The total delegates registered from points outside of St. Louis was 835.

There existed at the time of the convention a national strike in the bituminous fields which had not only begun to create distress and uncertainty as to financial results in the industrial field, but which in many states threatened to break out at any time into actual insurrection with consequent destruction of life and property. At

CONVENTION FEATURES.

Among the assured high lights of the Denver program are the following:

Governor Emmett D. Boyle of Nevada, principal speaker at the annual dinner.
W. G. Bied, president Chicago & Alton Railway, "Causes of Industrial Unrest."

P. G. Agnew, secretary American Engineering Standards Committee, address at Standardization Conference.

Fletcher Hamilton, state mineralogist of California, "Possibilities and Needs of the West's Mineral Industry."

James Lord, president Mining Division of the American Federation of Labor, "Labor and Its Relation to the Mining Industry."

Robert Linton, president North Butte Mining Company, "Training Men to Handle Men."

Horace F. Lunt, Colorado mine commissioner, "Mining for Oil."

Senator Charles S. Thomas, of Colorado, "Industrial Honesty."

Clay Tallman, commissioner of the Land Office, "Administration of United States Land Laws."

Judge E. C. Finney, of the Interior Department, "Legal Problems Affecting the Mining Industry."

Thomas H. Watkins, president Pennsylvania Coal & Coke Corporation, "Sacredness of the Contract."

Whiting Williams, Cleveland, has also accepted an invitation to speak, and Alfred D. Cook, director of Minerals Separation, Ltd., has been invited to address the Flotation Conference.

the same time local conditions, such as race riots and other indications of rampant anarchy, affected the public mind to the extent that hundreds who would have under normal conditions attended the convention were kept at home.

This year the Colorado committee has been called upon to meet demands for added convention facilities under conditions indicating a very widespread interest among branches of the industry which have not before participated in the annual conventions. By way of illustration, the Standardization Committee, which during the past year has developed into one of the most important features of the Mining Congress work, has extended invitations to a large

number of public officials, including all state mining inspectors, schools of mines, Canadian organizations and engineers, including mining, electrical and construction engineers and officers of mining and manufacturing corporations—a total of 8,000. The National Safety Council has been invited to participate officially. The American Institute of Mining Engineers, the Mining and Metallurgical Society of America and the American Engineering Standards Committee have been invited and are expected to co-operate in making this convention a success. Already Colonel Roberts of Chicago and Charles A. Mitke of Bisbee, chairmen of the general committees, are planning at least five half-day sessions for committee meetings during the week.

The Gold Conference.

To this is added a great interest in the gold conference. The Mine Operators' Association of Oatman (Arizona) has sent personal letters of appeal to hundreds of gold producers throughout the country, urging their attendance here. Fletcher Hamilton, state mineralogist of California, is spending his entire time in the organization of his state, urging attendance and participation here. The local committees and mining bodies in many communities and counties are at work endeavoring to arouse great enthusiasm. Every gold producing company and mining engineer directly interested in the development of gold has received a special letter signed by the Committee on Organization, which is actively back of the American Mining Congress in this work. Dr. H. N. Lawrie, chief of the Division of Rare and Precious Metals, is leading a great fight and the interest in gold problems is spreading into financial circles.

Just what will happen in the flotation conference is difficult to say at this time, but there are 1,400 users of flotation and corporations desirous of using flotation in recovery of ores, all more or less under a cloud, some already in deep financial difficulty and many threatened with suits which will run into millions of dollars in damages, provided Minerals Separation, Ltd., North American Corporation, is enabled to maintain its effort for absolute control.

There is distress caused by the fact that the railroads are forced to secure increased freight tariffs.

Radicalism has spread throughout labor circles and while there are no open breaks, the political fabric of labor is most dangerous in its existing condition, hence here

is a stronger reason for the consideration of the industrial problems. The total invitation list already covered by the general invitations and by special communications to various groups reaches 17,000, nearly twice the number of last year's list, and with a special rate of one fare and a half now granted by the railroads, in order to encourage attendance at this convention there is every reason to believe that Denver will be taxed to its utmost to provide facilities for the various conferences and subdivisions of the annual meeting.

Exposition space is limited. The management of the Albany Hotel has kindly consented to turn the hotel over to the convention. The great ballroom of the Albany will be filled with exhibits, likewise the lobbies and entrance ways, and the city administration of Denver has allowed the local committee to partially close up one of the busiest thoroughfares one full block to permit of the construction of a temporary building for the housing of heavy and power controlled exhibits. Principal committee rooms, small conference rooms and headquarters will be in the Albany Hotel. Additional conference rooms in the Law Hotel immediately adjoining the Albany and in the basement of the First Baptist Church, directly across the street, will be at the disposal of the delegates. Convention sessions will be held in the First Baptist auditorium, which seats 1,700. Altogether, I would consider this one of the most convenient and complete arrangements yet offered for a convention of this size and character.

Because of the facts given above and because for nearly eight weeks a staff ranging from seven to ten in number has been constantly at work on the promotion of details and the handling of correspondence relating to the convention and exposition, and because of the further fact that Governor Shoup of Colorado has carried on a personal campaign among public officials in behalf of this convention, I believe that unless some unexpected and unforeseen condition arises the attendance at Denver should very far exceed that at St. Louis. The correspondence thus far indicates that it was a very wise thing for the American Mining Congress to call the twenty-third Annual Convention as exclusively a "producers' meeting," eliminating from the invitations all general appointments of delegates by bodies not distinctively a part of the mining industry.

As was the case last year, the United States Bureau of Mines is making a very interesting exhibit under authority of John Barton Payne, Secretary of the Interior, who has evidenced great interest in the plans for this convention and exposition.

The Working Committees.

The Program Committee, which has devoted considerable time in planning the subjects and selecting speakers, is composed of the following well known men in the mining industry:

Chairman, D. W. Brunton of Denver; Dr. F. G. Cottrell, director of United States Bureau of Mines; Dr. George Otis Smith, director of United States Geological Survey; Dr. G. M. Butler, dean of College of Mining and Engineering, Tucson, Arizona; Seeley W. Mudd of Los Angeles; James F. Callbreath, secretary of the American Mining Congress; John C. Howard, president Utah Refining Co., Salt Lake City; Dr. E. W. Parker, chairman Anthracite Bureau, Philadelphia; Col. Warren R. Roberts, Chicago; Carl Scholz, Charleston, West Virginia; J. E. Spurr, editor Engineering and Mining Journal, New York; Dr. Francis A. Thomson, dean School of Mines, Moscow, Idaho; Bulkeley Wells, president American Mining Congress, Denver, ex-officio.

The Exposition.

The exposition is in charge of the following committee:

J. Claire Evans, vice president Denver Fire Clay Co.; John T. Ryan, vice president Mines Safety Appliance Co., Pittsburgh; C. A. Veatch, Chicago district manager, the Ohio Brass Co., Mansfield, Ohio; W. A. Wicker, representing Hendrie-Bolthoff Mfg. & Supply Co., Denver; W. L. Loveland, general manager, the Mine & Smelter Supply Co., Denver; R. W. Gordon, sales manager, the Stearns-Roger Mfg. Co., Denver; L. M. Cargo, general manager, Westinghouse Electric Co., Denver; Col. Raymond A. Eaton, Deputy Industrial Commissioner, City of Denver; W. H. Leonard, president, Denver Rock Drill Co., Denver.

The General Committee on Arrangements, to which large credit must be given in making possible the successful promotion of the convention, is comprised of the following well known Colorado business men:

Honorary chairman, Governor Oliver H. Shoup, of Colorado; chairman, Thomas B. Stearns, president Stearns-Roger Mfg. Co., Denver; chairman Reception Committee, W. F. R. Mills, manager Municipal Water Co., Denver; chairman Exposition Committee, J. Claire Evans, vice president Denver Fire Clay Co.; chairman Flotation Conference, Geo. E. Collins, Denver; chairman Press Committee, Thomas Tonge, Denver; L. L. Aitken, president Midwest Oil Co., Denver; C. F. Clay, chairman Petroleum Division, Colorado Chapter, the American Mining Congress, Denver; F. E. Kistler, president Producers and Refiners' Corporation, Denver;

Jessie F. McDonald, Leadville, Colorado; A. E. Carlton, Colorado Springs; J. F. Welborn, president Colorado Fuel & Iron Co., Denver; W. H. Huff, president Victor-American Fuel Co., Denver; James C. Burger, vice president Hamilton National Bank, Denver; Richard A. Parker, chairman Mining Bureau, Denver Civic & Commercial Association; William V. Hodges, president Denver Civic & Commercial Association; George L. Nye, mining attorney, Denver; John C. Mitchell, president Denver National Bank; George M. Taylor, general manager Portland Gold Mining Co., Colorado Springs; D. W. Brunton, mining engineer, Denver; W. H. Leonard, president Denver Rock Drill Co.

The organization committee of the gold conference is composed of the following:

R. M. Betts, Cornucopia, Oregon; L. D. Gordon, San Francisco; Irving Howbert, Colorado Springs; W. J. Loring, San Francisco; B. L. Thane, San Francisco; H. W. Seaman, Chicago; Philip Wiseman, Los Angeles.

The flotation conference has been called by a committee consisting of the following:

George E. Collins, chairman, Denver; Philip Argall, Denver; J. M. Callow, Salt Lake City; E. E. Paxton, San Francisco; T. A. Rickard, editor Mining and Scientific Press, San Francisco; G. W. Lambourne, Salt Lake City; Robert M. Henderson, Breckenridge, Colorado.

N. C. A. Cooperating.

The letter which was sent to the members of the National Coal Association and to coal producers generally is signed by the following three directors of the American Mining Congress. Carl Scholz of West Virginia, S. A. Taylor of Pennsylvania and Thomas F. Brewster of Missouri.

The Educational Conference has been called by the committee on permanent organization, composed of: Dr. F. C. Lincoln, chairman, director Mackay School of Mines, University of Nevada; Dr. Francis A. Thompson, dean and secretary Idaho School of Mines; Dr. G. M. Butler, dean College of Mines and Engineering, University of Arizona.

Social and special features of the convention will include a combined assemblage of all divisions of the convention, together with a local program of entertainment, followed by speakers nationally known, in the great City Auditorium on the night of November 15. This program is in charge of an entertainment committee, which will also during the week be prepared to serve the annual dinner, and arrange for certain diversions, such as moving pictures and special entertainment for the ladies.

DENVER

BY THOMAS TONGE.

William Orton, long president of the Western Union Telegraph Company and a member of the governing committee of the New York Stock Exchange, visited Denver several years ago on official business and inspected every point in Colorado then accessible by railroads, travelling only by day. On his return to New York he delivered an address, in which he gave it as his opinion that "the four great cities of this continent are to be New York, Chicago, Denver and San Francisco."

Denver stands unsurpassed for its combination of advantages. Its climate is ideal for residential purposes. Its location is favorable for business and investment. It is a place of rapid but solid past and certain future growth, a cosmopolitan, energetic and enterprising community and an increasing commercial, educational, financial, manufacturing, railroad, social and tourist center, with a tributary territory comprising fully 250,000 square miles of Trans-Missouri country of vast and varied and, as yet, only partially developed resources.

In this great region, every fresh acre cultivated, every new orchard planted, every increase in live stock, every new mine worked, every manufacturing enterprise started and every new producing oil well reacts beneficially on and sends new life blood to the heart—Denver. Denver has been and will continue to be the outcome of the development of its tributary country.

Denver population: 1870, 4,731; 1880, 35,628; 1890, 106,713; 1900, 133,859; 1910, 213,381; 1920, 256,369. With the further development and settling up of its tributary country, now progressing rapidly, Denver will soon have a population of 500,000.

Colorado is seven times the size of Switzerland. Colorado has about nine persons per square mile; Switzerland 232 persons per square mile. Colorado has much more varied and far greater natural resources than Switzerland, on which to amply maintain a population of 232 persons per square mile. If Colorado had 232 persons per square mile, the population of Colorado would be over 23,000,000 and the population of Denver several millions.

The next fifty years will see a much greater rate of progress in Colorado than the last fifty years, with a proportionately bigger Denver.

Climatic Advantages.

The special value of the climate of Denver is in the combination of high altitude, maximum sunshine and dryness with bracing energizing qualities, permitting out-door exercises every day all the year round, the favorable results of which are seen in large numbers of former invalids whom it has rescued from a life of invalidism and converted into healthy, active workers and business and professional men.

There are comparatively large numbers of citizens, long resident in Denver, who came originally for reasons of health and who know that their being still alive, practically well and engaged in profitable business is owing to the beneficial effects of the climate of Denver.

The altitude and dryness minimize the heat to the extent of twenty-two degrees; in other words, from the recorded temperature it is necessary to subtract twenty-two degrees to find the real heat felt by the people. The altitude and dryness equally minimize the cold of winter.

A Mining Center.

Not only can Denver be reached in fifty hours from New York, Boston, and Philadelphia and in twenty-eight hours from Chicago and St. Louis by means of trans-continental lines, but, by means of the local railroads, practically all the various mining districts of Colorado can be reached from Denver, in some cases in a Pullman car. Eastern capitalists can, therefore, easily keep in personal touch with their mining investments and, by visiting Colorado, realize what has been done or is being done with their money in a way which is not possible from any mere written report, however clear and reliable.

Further, machinery and mining supplies can be shipped speedily and economically from Denver to the mines and the ore and concentrates shipped from the mines to the smelters.



LOOKING DOWN SEVENTEENTH STREET.

A Mining Machinery Center.

Denver is the geographical, railroad and mining machinery center of the great mining regions extending from British Columbia to southern Mexico. Denver firms build, manufacture and supply all requirements for mining and ore treatment. A mine

operator can come into the Denver market and get at once practically anything he requires. For forty-five years intelligent, observant and ingenious men, who have made mining and ore treatment their life business in Colorado and the west, have been in personal contact with equally intelligent,



DENVER CIVIC CENTER FROM STATE CAPITOL.



STATE CAPITOL AND U. S. MINT.

observant and ingenious men engaged in designing and erecting ore treatment plants, or in manufacturing mining and ore treatment machinery, with the result that every improvement that a combination of scientific knowledge and practical experience could devise has been adopted. Each year has seen something discarded as inferior and a distinct advance made, until today the best mining machinery makers elsewhere can come to Denver and learn much in their own business.

Naturally, for many years past, Denver-made mining machinery has been shipped to the mining districts throughout the United States and to foreign countries.

A Professional Talent Center.

During the last forty-five years, the local opportunities in Colorado have necessarily attracted many professional men, the older of them from other states and countries, while many younger experts have been graduated from the Colorado School of Mines. The doctrine



LOOKING UP SEVENTEENTH STREET.

of the survival of the fittest finds Denver today with a corps of experts, specially identified with Colorado, but with extensive



THE LARIAT AUTO TRAIL IN DENVER'S MOUNTAIN PARK SYSTEM.

experience in other states and countries. These experts cover the entire field of geology, mineralogy, metallurgy, mining, mechanical and electrical engineering.

Churches and Schools.

There are in Denver approximately 270 churches, including all established denominations. Twenty-one of these are Catholic

and fourteen Jewish. Methodists lead the Protestant denominations with fifty-one churches. There are six Christian Science churches, one Unitarian, one Universalist and one United Brethren.

Denver is noted for the excellence of its public school buildings. The public school enrollment is 35,000 pupils; the teaching staff numbers 1,300. There are fifty-nine graded schools, most of which have kinder-



IN DENVER'S MOUNTAIN PARKS.

garten departments, five high schools, one night school, one opportunity school and five junior high schools. The local private educational establishments include Denver University (Methodist); Loretta Heights Academy and St. Mary's Academy (both Catholic) for girls; Sacred Heart College (Jesuit) for boys, and Woman's College (Baptist).

Commerce and Finance.

Denver's library property is valued at more than \$500,000. The main library was erected at a cost of \$300,000.

Denver is the principal wholesale and jobbing center of its tributary country and its trade territory is steadily extending.

The Denver Civic and Commercial Association has nearly four thousand members—bankers, manufacturers, merchants, mining men and professional men.

Denver has forty-two banking



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U. S. POSTOFFICE, BUILT OF COLORADO WHITE MARBLE.



DENVER CHAMBER OF COMMERCE BUILDING.

institutions, including five national banks. On December 31, 1919, their combined assets were \$185,523,182 and their total deposits were \$158,822,932. Most of the big irrigation, manufacturing, mercantile, mining and other concerns operating in Colorado and neighboring states do some or all of their banking business through the banks of Denver. Seventeenth street Denver, is sometimes referred to as "The Wall Street of the West."

Many Government Offices.

More than forty federal departments and bureaus have offices in Denver, among them being the Reclamation Service, Forest Service, Bureau of Animal Industry, General Land Office, Geological Survey, Indian Service, Bureau of Mines, immigration department, grain standards inspection service, public roads and rural engineering, secret service, post office inspection and various bureaus of the Interstate Commerce Commission, Department of Labor, Treasury Department and Department of Commerce.

Adjacent to Denver is the Army General Hospital No. 21, the newest and most modern of the U. S. Army's institutions for the

care of sick and wounded soldiers. The hospital, which cost more than \$4,000,000, includes approximately 100 buildings.

Live Stock.

The Denver stock yards plant comprises more than 150 acres, the combined investment in yards and packing plants approximating \$14,000,000.

Denver has the largest sheep pens in the United States, built at the Denver Union Stock Yards, at a cost of \$100,000.

In this connection it may be stated that—

The annual value of live stock on Colorado farms has risen in forty years from \$8,700,000 in 1880 to \$215,000,000 in 1919.

The annual value of Colorado crops has risen in twenty years from \$17,000,000 in 1900 to \$191,000,000 in 1919.

The annual value of all Colorado farm property has risen in forty years from \$40,000,000 in 1880 to \$1,155,000,000 in 1919.

Manufacturing.

"Factories follow population westward." With the steady increase in population in Denver's tributary country, Denver's manufacturing industries correspondingly increase. By reason of great and varied supply of local raw materials, as yet only very partially utilized locally, comparatively cheap fuel, available hydro-electric power, favorable climate, ample railroad distributing facilities and growing market extending to many states and foreign countries, Denver's future as a manufacturing center is assured.

The last U. S. census report on the subject showed that in 1914 Denver had 885 manufacturing establishments, with 11,062 wage earners; wages and salaries, \$11,326,000; value of output, \$46,982,000; capital invested, \$44,679,000. Since then the business has increased.

Railroads.

Seven railways enter the city—the Chicago, Burlington & Quincy; Colorado &



BULKELEY WELLS
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THE AMERICAN MINING CONGRESS



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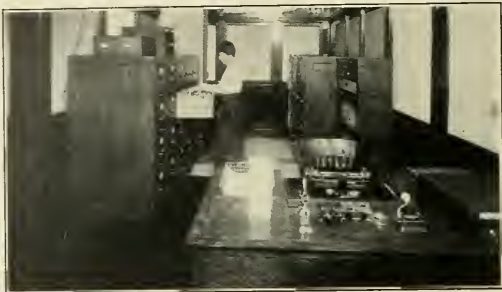


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Southern; Denver & Rio Grande; Denver & Salt Lake; Chicago, Rock Island & Pacific; Atchison, Topeka & Santa Fe, and Union Pacific. The trunk lines and their connections aggregate over 30,000 miles of railroad radiating from Denver to the Atlantic and Pacific ports, the Great Lakes and the Gulf of Mexico.

City's Social Life.

Denver is deservedly celebrated for its social life, clubs and places of amusement.

Clubs—Country Club, Denver Club, Denver Athletic Club, Progress Club, University Club, Woman's Club.

Theaters—Broadway, Denham, Orpheum, Tabor and others. "Movie Row," where most of the large picture theaters are located, is one of the best lighted streets in the world.

Popular with Tourists.

Denver (5,280 feet altitude) has many scenic attractions and is within a two hours' railroad journey from the eternal snows of the continental divide.

Colorado has 40,000 miles of auto roads, all practically radiating from Denver.

By auto or railroad Denver is the gateway of a vast district equalling Switzerland in scenic attractions and surpassing it in the number and height of mountain peaks, making Colorado the "Playground of America."

On account of the clearness of the atmosphere, nineteen mountain peaks, from 10,000 to 14,000 feet in altitude, are plainly visible with the naked eye from the Cheesman Memorial Pavilion.

(Editorial Note.)

Thomas Tonge, the writer of the articles in this issue, "The Western Mining States," "Colorado as a Mining State" and "Denver," was born at Styal, near Manchester, Eng. He has lived in Denver since 1883, during the whole of which time he has been more or less connected with mining in Colorado and other states, becoming personally familiar with practically every metalliferous mining district in Colorado and with all the leading mine operators and mining engineers, past and present.

For several years he has been the Colorado correspondent of the Mining Journal, London, Eng., and his articles on mining subjects have been published in magazines and papers on both sides of the Atlantic.

He has also written and published two books, "Handbook of Colorado Resources" (1908) and "All About Colorado" (1913), which have a wide circulation.

For three consecutive years—1911, 1912 and 1913—he was chairman of the Mining Committee of the Denver Chamber of Commerce, and in the Twentieth Colorado General Assembly he was chairman of the Mining Committee of the House of Representatives.

Denver is said to be able to accommodate 50,000 visitors in its hotels and lodging houses.

By reason of its climate, Denver is a pleasure resort, both summer and winter.

Denver has thirty-five parks within the city limits, with a total area of 1,321 acres.



LOOKING WEST DOWN SIXTEENTH STREET FROM STATE CAPITOL.

connected by eighteen miles of boulevard. The largest—City Park—covers an area of 480 acres.

The Civic Center, thirteen acres in extent, which cost \$1,500,000 for the land alone, faces the state capitol and contains a Greek open air theater.

Denver's park system includes eighteen municipal playgrounds, two bath houses and bathing beaches and three outdoor swimming pools; an enclosed "natural" zoo for animals at City Park; thirty-two municipal tennis courts, two municipal eighteen-hole golf courses, two municipal baseball diamonds and two auto camps for tourists.

During 1919 the total number of cars parked at one camp in the city was 4,676, representing 13,116 tourists from nearly every state in the Union. There has been a much greater number of auto tourists this year in the city camps.

Denver also owns mountain parks twenty-five miles from its borders, containing an aggregate acreage of more than five square miles and sixty-nine miles of roadway. Such mountain parks include a municipal game preserve containing buffalo, elk, big-horned mountain sheep and mule deer.

The U. S. Rocky Mountain National Park, including 397 square miles of mountain country, about fifty miles northwest of Denver, contains peaks from 12,000 to 14,000 feet high. In 1919 this park alone was visited by 169,000 persons and the number was larger this year.

Public Buildings.

The state capitol, situated in very attractive grounds overlooking the civic center, is one of the most impressive buildings of the west. It is built of Colorado granite and

cost \$2,800,000. It is flanked on the south by the handsome state museum building, built of Colorado white marble.

The U. S. postoffice, built of Colorado white marble, cost more than \$2,500,000.

The Denver branch of the U. S. Mint, built of Colorado granite, is also a very fine building.

The municipal auditorium, which cost \$750,000, has a seating capacity of 12,000.

The Denver Civic and Commercial Association and the various bureaus connected with it are housed in the association's building on Champa street, half a block from the postoffice.

There are office buildings ranging up to twelve stories and several very fine church buildings, notably the Catholic and Episcopal Cathedrals.

Public Improvements.

The character and extent of street and drainage improvements are shown by the following:

All streets, 1,000 miles; surfaced streets, 224 miles; paved streets, 57 miles; parked boulevards, 18 miles; double parkways, 10 miles; curbing, 751 miles; paved alleys, 49 miles; sidewalks, 775 miles; sanitary sewers, 495 miles; storm and combination sewers, 141 miles.

Few cities have a better water supply than Denver, which is derived from mountain streams many miles west and south of the city. The system is owned and operated by the city. Other public utilities include a very satisfactory electric street car system, an equally excellent electric lighting and fuel gas system and an up-to-date telephone system.

STANDARDIZATION

The first National Standardization Conference has been called, in conjunction with the twenty-third Annual Convention of the American Mining Congress, at Denver, Colorado, November 15-20.

This conference will be under the direction of Colonel Warren R. Roberts, president, Roberts & Schaefer Company, Chicago,

tional Safety Council; to the Bureau of Standards; to the American Institute of Mining and Metallurgical Engineers; to the American Engineering Standards Committee; to the United States Bureau of Mines—in fact, to all those who are interested in this important subject.

The work already accomplished has received the endorsement and co-operation of all those associations working along the same line, and at the National Conference it is proposed to still further consolidate



COL. WARREN R. ROBERTS,
Chairman, Coal Mining Division, General
Standardization Committee.

Ill., chairman of the Coal Mining Division of the General Committee on Standardization, and Charles A. Mitke, consulting engineer, Bisbee, Arizona, chairman of the Metals Division of the same committee.

Invitations have been extended to a large number of coal and metal operators, to have representatives present to discuss this important subject; likewise the same invitation has been extended to the firms who manufacture mining equipment; to the Na-



CHARLES A. MITKE,
Chairman, Metal Mining Division, General
Standardization Committee.

tional Safety Council; to the Bureau of Standards; to the American Institute of Mining and Metallurgical Engineers; to the American Engineering Standards Committee; to the United States Bureau of Mines—in fact, to all those who are interested in this important subject.

this work. It is also planned to include in the scope of the work, which up to this time has been confined to standardizing equipment—the standardizing of labor and life-saving devices, safety codes, cost accounting, government and state co-operation with mining companies, etc.

An informal standardization conference will be held all day Sunday. Formal conferences of all sub-committees will be held Monday and sectional conferences on coal and metal mining will be held Monday afternoon. The various committees will meet Tuesday to consider resolutions and reports. A joint meeting of the metal and coal divisions will be held Wednesday. Among the speakers for Thursday whose acceptances have been received are the following: Thomas Brewster, St. Louis, "What Standardization Cost Accounting Has Done for the Bituminous Industry"; Dr. F. G. Cottrell, director of Bureau of Mines, informal discussion of standardization; Chairman Mitke, "Relation of Standardization to Mine Management"; Chairman Roberts, "Standardization and Efficiency"; T. O. McGrath, Bisbee, "Standard Mine Accounting Systems in Relation to Metal Industry."

Chairmen Mitke and Roberts will render to the convention their annual reports, which will include the progress made during the last year.

The Metal Mines Section of the Standardization Committee, unlike the Coal Section which has been in existence for approximately two years, was not organized until late this summer, and the personnel of the different committees is not yet entirely complete. The summer months being the vacation season, and the organization work necessarily being carried on through correspondence, little could be accomplished beyond the appointing of committees and the outlining of investigations to be pursued by the individual sub-committees. Only a preliminary report will, therefore, be made this fall, but it is expected that a complete report will be forthcoming at the annual meeting next year.

The Metal Mines Section consists of a general committee and a number of sub-committees, the chairmen of which are also members of the general committee.

Seven sub-committees have so far been appointed. These committees will have charge of work looking to the standardization of drilling machines and drill steel, underground transportation, mine ventilating equipment, underground power shovels,

steam shovel equipment, fire fighting equipment and mine timbers.

In appointing the various chairmen and members of the respective committees, every effort was put forth to make an impartial selection, and have every large mining district well represented, so that the best talent and experience in the profession may be available and at the command of the committees when the actual work of standardization begins.

The chairmen of the committees are either men who are vitally interested in the operating end, or men who have done considerable original work as mining engineers, while the membership of the sub-committees is composed of men in the operating departments, mining engineers of various companies, engineers and officials of large industrial plants manufacturing mining equipment, and experts in highly specialized lines.

In organizing the various committees an effort was made to have the personnel composed of men who were devoting a large portion of their time to specialized work at the different companies, along the lines of the various subjects to be investigated.

The Copper Queen Branch of the Phelps-Dodge Corporation, the North Butte Mining Company, and the United Verde Copper Company have all devoted considerable time and expense to the solution of problems connected with the use of the various types of drilling machines, and the standardizing of drilling operations. Among the membership of the committee on drilling machines and drill steel are representatives of these companies.

MINE TIMBERS

Norman Carmichael, Chairman.

The sub-committee on standardization of mine timbers is composed of men whose companies all use large quantities of timber, and are therefore vitally interested in this subject. Mr. Norman Carmichael, general manager of the Arizona Copper Company, chairman of this committee, is also Governor of the Arizona Chapter of the American Mining Congress, and in his dual capacity as chairman of the committee and Governor of the local section, is devoting considerable efforts towards the successful standardization of mine timbers in general.

A great deal has already been done in the standardization of mine timbers, as the average mine already has standards in some form or another. The aim and object of the committee on the standardization of mine timbers, however, is to stimulate further standardization of timber for mining use in order to reduce present costs.

The personnel of this committee follows:

Lucian Eaton, Superintendent Cleveland-Cliffs Iron Co., Ishpeming, Mich.; G. W. Nicholson, General Superintendent United Verde Extension Mining Co., Jerome, Ariz.; W. S. Boyd, Manager Ray Consolidated Copper Co., Ray, Ariz.; W. C. McBride, General Manager Old Dominion Company, Globe, Ariz.; Ira B. Joralemon, Assistant General Manager Calumet & Arizona Mining Co., Warren, Ariz.; Felix McDonald, Mines Superintendent Inspiration Consolidated Copper Co., Inspiration, Ariz.; T. Evans, General Superintendent Cananea Consolidated Copper Co., Cananea, Sonora, Mex.; John Kiddle, Division Superintendent Arizona Copper Co., Morenci, Ariz.

UNDERGROUND TRANSPORTATION

William B. Daly, Chairman.

On the underground transportation committee are represented such companies as the Inspiration Con. Copper Co., whose very efficient system is well known; also the Bunker Hill & Sullivan, which likewise has a first-class system, and the Anaconda Copper Company and Arizona Copper Company, both of which have large

underground transportation systems. This committee numbers among its members:

George H. Booth, Mechanical Engineer, Inspiration Consolidated Copper Co., Inspiration, Ariz.; R. R. Boyd, Assistant Superintendent, Mine Department, Copper Queen Branch, Phelps-Dodge Corporation, Bisbee, Ariz.; T. K. Scott, Chief Engineer, Box No. 100, Miami Copper Co., Miami, Ariz.; Andover Syverson, Chief Engineer, United Verde Extension Mining Co., Jerome, Ariz.; E. M. Norris, Assistant Superintendent of Mines, Anaconda Copper Mining Co., Butte, Mont.; H. T. Hamilton, Manager Moctezuma Copper Co., Nacozari, Sonora, Mex.; R. E. Howe, Assistant General Manager, Cananea Consolidated Copper Co., Cananea, Sonora, Mex.; D. S. Calland, Managing Director Compania de Real del Monte de Pachuca, Pachuca, Hidalgo, Mex.

STEAM SHOVEL EQUIPMENT

H. C. Goodrich, Chairman.

The sub-committee on the standardization of steam shovel equipment, which will be composed of representatives of all the large steam shovel plants, is under the able guidance of H. C. Goodrich, chief engineer

of the Utah Copper Company, who has considerable experience along the lines of steam shovel work, and the efforts of this committee cannot help but be productive of beneficial results.

The steam shovel committee will endeavor to work out various standards of steam shovels and other equipment which will be suitable for the

various kinds of ground encountered and material to be handled. The following are its members:

Robert E. Tally, General Superintendent, United Verde Copper Co., Clarkdale, Ariz.; H. G. S. Anderson, Mining and Metallurgical Engineer, Hurley, N. Mex.; C. B. Lake-nan, Nevada Consolidated Copper Co., McGill, Nev.; G. W. Barnhart, Manager, San Francisco Branch of Marion Steam Shovel



Co., 741 Monadnock Building, San Francisco, Cal.

DRILLING MACHINES AND DRILL STEEL

Norman B. Braly, Chairman.



These various committees have certain definite lines of investigation placed before them, as for example, the committee on drilling machines and drill steel, will work out specifications for "standard steel, which might be interchangeable in different types of machines, such as drifting, stopping, and jackhammers.

and standard, interchangeable air and water hose connections."

The object is to make possible the use of one standard steel, (certainly not more than two classes). The same is true of drilling machines. Instead of having a large number of different types in use, as at present, there should be a gradual process of elimination, so that it may become possible to standardize on several types instead of a dozen or two. This also implies universal chucks. The committee has the following members:

Arthur Foote, North Star Mines, Grass Valley, Cal.; O. J. Egleston, Manager U. S. Smelting, Refining & Mining Co., Kennett, Cal.; C. S. Elayer, General Foreman Arizona Commercial Mining Co., Globe, Ariz.; H. Seamon, Efficiency Engineer United Verde Copper Co., Jerome, Ariz.; George H. Gilman, 125 Prescott St., East Boston, Mass.; Arthur Notman, Superintendent Mine Department, Phelps-Dodge Corporation, Copper Queen Branch, Bisbee, Ariz.; Arthur Crane, Explosive Expert Hercules Powder Co., San Francisco, Cal.; L. C. Bayles, Chief Engineer Ingersoll-Rand Company, Phillipsburg, N. J.; Ochs Potter, Superintendent Superior Division, Calumet & Hecla Mining Co., Houghton, Mich.; R. T. Murrill, Safety and Efficiency Engineer Inspiration Consoli-

dated Copper Co., Inspiration, Ariz.; Roy Marks, Stope Engineer, Box 1676, United Verde Extension Mining Co., Jerome, Ariz.; Charles Lees, Superintendent Iron Cap Copper Co., Copper Hill, Ariz.; Earl Hastings, Foreman Clay Mine, Arizona Copper Co., Ltd., Morenci, Ariz.; W. G. Scott, Superintendent Coronada Mines, Arizona Copper Co., Ltd., Metcalf, Ariz.; J. A. Fulton, Idaho-Maryland Mines Co., Grass Valley, Cal.; Charles A. Smith, Mine Superintendent Ray Consolidated Copper Co., Ray, Ariz.; Frank Ayer, Mine Superintendent Moctezuma Copper Co., Pilares De Nacozari, Son., Mex.; Thomas C. Baker, Assistant General Manager The Mexican Corporation, Edificio "La Mutua," Mexico City, Mex.

UNDERGROUND SHOVELING MACHINES

A chairman has not yet been appointed for this important committee, but Mr. Mitke will announce, at an early date, his selection for this work.

Through the committee on underground transportation it is proposed to "standardize on a general capacity car for all hand tramping, together with gauge of track, grade of drift, weight of rail, dimensions (in the clear) of tramping drift, including character of chute, and chute door which will insure maximum safety and efficiency with economic operation;" also "to standardize on a general capacity car for all motor haulage, together with gauge of track, grade of drift, weight of rail, size of motor drift (in the clear), etc.," and "to standardize on weight of locomotives for different loads for electric, storage battery, and compressed air haulage."

Inevitably, underground shoveling machines will, to a large extent, supersede the ordinary mucker. The committee on underground power shovels, which will be composed of men whose companies are doing considerable experimenting with different types of shovels, will investigate the possibility of developing a standard type of underground shoveling machine, suitable for use in metal mines.

The following gentlemen have accepted a place upon this committee:

R. W. Macfarlane, Mining Department, Longfellow Division, Arizona Copper Co., Morenci, Ariz.; William Whaley, General

Manager Myers-Whaley Company, Knoxville, Tenn.; H. De Witt Smith, Superintendent of Mines United Copper Verde Co., Jerome, Ariz.; Albin F. Victor, Manager of Sales Lake Superior Lumber Co., Duluth, Minn.; J. H. Hensley, Mine Superintendent Miami Copper Co., Miami, Ariz.; H. E. Billington, Manager of Sales The Thew Shovel Co., Lorain, Ohio.

FIRE FIGHTING EQUIPMENT

William Connibear, Chairman.



The committee on the standardization of fire-fighting equipment is under the direction of William Connibear, Mine Inspector, Cleveland Cliffs Iron Co., and numbers among its personnel Orr Woodburn, Director of Safety Work for all the mines in the Globe-Miami district of Arizona; A.

A. Krogdahl, Safety Engineer of the Oliver Iron Mining Co.; Guy J. Johnson, Safety Engineer for the Homestake Mining Company; E. P. Dudley, of the Bunker Hill & Sullivan Mining Co.; H. J. Rahilly, of the Anaconda Copper Company, and many others.

The object of the committee on the standardization of fire-fighting equipment will be to "standardize the type and quantity of fire-fighting equipment which should be on hand and available for immediate use at all metal mines."

The members of this committee are:

Guy J. Johnson, Safety Engineer Homestake Mining Co., Lead, S. D.; A. A. Krogdahl, Safety Engineer Oliver Iron Mining Co., Virginia, Minn.; J. T. Young, Safety Inspector Arizona Copper Co., Morenci, Ariz.; H. J. Rahilly, Superintendent Mine, Fire and Hydraulic Filling Department, Anaconda Copper Mining Co., Butte, Mont.; Orr Woodburn, Safety First Director Globe-Miami District, Globe, Arizona.

MINE VENTILATION

Charles A. Mitke, Temporary Chairman.

Included on the mine ventilating committee are representatives of the Inspiration

Con. Copper Company, which is considered to have one of the finest ventilating systems in the country, and the Anaconda Copper

Company, which is at present spending large sums of money in making vast improvements along these lines. The Miami Copper Company is represented by its general manager, F. W. MacLennan; the Magna Copper Company by W. C. Browning, general manager, while Robert Bell, State Mine Inspector for Idaho, represents



the mines in that state. Many other large companies also interested in this work have representatives on the committee. The work of this committee is being directed by Charles A. Mitke, chairman of the general committee.

The work of the ventilating committee will be along the lines of investigating the different types of ventilating equipment which are at present in use, and the standardizing of blowers and ventilating pipe, etc.

The personnel of the committee follows:

Don M. Rait, Assistant Superintendent of Mines, Calumet & Arizona Mining Co., Warren, Ariz.; E. B. Williams, Manager, Mine Fan Department, B. F. Sturtevant Company, Hyde Park, Boston, Mass.; W. A. Rowe, Chief Engineer American Blower Co., Detroit, Mich.; Robert N. Bell, State Mine Inspector, Boise, Idaho; F. L. Stone, care of General Electric Co., Schenectady, N. Y.; O. K. Dyer, Buffalo Forge Co., Buffalo, N. Y.; C. E. Legrand, Consulting Engineer, Phelps-Dodge Corporation, Douglas, Ariz.; A. S. Richardson, Chief of Ventilating Department, Anaconda Copper Co., Butte, Mont.; Norman G. Hardy, Chief Mechanical Engineer, Arizona Copper Co., Clifton, Ariz.; A. C. Stoddard, Chief Engineer, Inspiration Consolidated Copper Co., Box No. 15, Inspiration, Ariz.; D. Harrington, care of Bureau of Mines, Golden, Col.

The carrying out of these investigations does not imply the working out of one fixed

standard for all supplies and methods of operation, regardless of the various individual needs, but it does imply, and it is hoped, that a minimum number of standards may be evolved, which will meet the various conditions and thereby lead towards simplification and more systematized methods.

The manner of working out these standards is by first sending a detailed questionnaire to every operator, in order to compile a complete list of the multiple demands of the industry along these specialized lines. This compiled information is then sent to the committee members for careful study, with a request for suggestions and criticisms. The replies, upon being exchanged among the members of the committee, will promote a healthy discussion among the *personnel*, which, being composed of operators who are in daily touch with the operations of the industry, mining engineers in the employ of large corporations, representatives of large manufacturers, and experts along special lines, will be in a position to work out constructive plans which may form the basis of the proposed standards.

It is believed that the concerted effort of so many members of the mining profession, representing the large operating companies of the country, will ultimately result in the evolution of standard methods, standard equipment, and standard labor-saving devices, which may offset to a large extent the present high cost of production and the shortage of unskilled labor.

How the Sub-Committees Work.

The following method of procedure has been adopted by all sub-committees:

1. Chairman sends out questionnaire to all committee members, and to mine managers in districts not represented by members, in order to collect sufficient data for a general working basis.

2. Upon receipt of returned questionnaires, properly filled out, information thus obtained is tabulated by the chairman and all data compiled in a condensed form.

3. Copies of this tabulated data are distributed among the members of the committee, accompanied by a request from the chairman that each committee member give the compiled data due study and consideration.

4. After the committee members have studied the compiled data, they should write their chairman, giving their views, suggestions and recommendations for further standardization.

5. This exchange of views will probably lead to considerable discussion between the chairman and the various members of the committee, and should ultimately result in suggestions of considerable value to the mining industry.

6. Incorporation of all the best recommendations in report made by the chairman and committee members to the general committee.

Drilling Machines and Drill Steel.

The first step in the systematic standardization of mining operations is the standardization of equipment.

The main object of the sub-committee on standardization of drilling machines and drill steel is, therefore (after a discussion among mining men representing the various metal mining interests throughout the country, designers in the employ of manufacturers of machines and steel, and explosive experts) to arrive at the weight of machine, or machines, size of steel, and sizes and strengths of powder, which might be considered as standard for approximately 90% of the ground to be broken.

Also, to work out specifications for standard steel, which might be interchangeable in different types of machines, such as drifting, stoping, and jackhammer machines, and standard, interchangeable, air and water hose connections.

It is earnestly requested that the members of this particular committee confine their entire efforts to the further standardization of drilling *equipment only*. The various problems connected with drilling operations (such as the procedure to be followed in setting up and drilling a round of holes, standard machines rounds, etc.,) are so extensive that they will be postponed until a later date.

With the above objects in view, the following questionnaire is being sent to all members, in order that sufficient data may be obtained to pave the way for a discussion

which should result in valuable suggestions by the various members of the committee:

QUESTIONNAIRE.

Machines.

1. What makes and numbers of drifting machines are used at your mine or mines?
2. How many of each kind?
3. What makes and numbers of stoping machines are used at your mine or mines?
4. How many of each kind?
5. What makes and numbers of machines of the jackhammer type are used at your mine or mines?
6. How many of each kind?
7. How many jackhammers are used mounted?
- How many unmounted?
8. How many wet stopers are used? How many dry stopers?
9. How many jackhammers are used wet? How many dry?
9. How many dry stopers are provided with sprays to lay the dust?
10. How many dry jackhammers are provided with sprays to lay the dust?
11. What, in your opinion, is the ideal weight of machine for approximately 90% of the ground in your mine, for drifting?
12. What, in your opinion, is the ideal weight of machine for stoping in your ground?
13. What, in your opinion, would be the ideal weight of jackhammer for your ground?
14. What, in your opinion, is the possibility of building a machine of medium weight to take the place of both your drifting machines and jackhammers?
15. What weight would you suggest for such a machine?
16. Have any experiments been performed by your company in standardizing upon one machine for drifting and plugging?

Steel.

17. What kind of Leyner steel do you use? Hollow round? $\frac{1}{4}$ octagon? Hollow square? etc. What per cent of each?
18. What is the diameter of steel used?
19. What is the diameter of drill bit starter? What is the diameter of second steel? What is the diameter of third steel? What is the diameter of fourth steel? What is the diameter of fifth steel? What is the diameter of sixth steel?
20. What kind of stoper steel is used? Cruciform solid? Hollow $\frac{1}{4}$ octagon? Square hollow? etc. What percent of each?
21. What is the diameter of steel used?
21. What is the diameter of drill bit starter? What is the diameter of second steel? What is the diameter of second steel? What is the diameter of third steel? What is the diameter of fourth steel? What is the diameter of fifth steel? What is the diameter of sixth steel?
24. What kind of jackhammer steel do you use? Hollow hexagonal? Solid hexagonal? etc. What per cent of each?
25. What is the diameter of jackhammer steel used?
26. What is the diameter of drill bit starter? What is the diameter of second steel? What is the diameter of third steel? What is the diameter of fourth steel? What is the diameter of fifth steel? What is the diameter of sixth steel?

Drill Bits.

27. What makes of air and water hose do you use?
28. What is the diameter of each?
29. What type of connections do you use? Make? etc.
30. What connections have you found to be the most satisfactory?

31. What would you suggest as a standard, universal coupling between hose and machine?

Coal Mining Division.

The October issue of the JOURNAL gave an outline of the work of the Coal Division. The following, however, is of importance to all those interested in this branch of the work, and in the general subject of standardization:

The work of the Coal Mining Division was inaugurated principally in 1919. It was the outgrowth of a committee of many years' standing, dealing with the question of standardizing electrical equipment in coal and metal mines. George R. Wood, now chairman of the Sub-committee on Drainage, was its first chairman. Under his direction the work grew until with the 1920 convention of the Mining Congress it was decided to undertake the work upon a large scale. Colonel Warren R. Roberts, president of Roberts and Schafer Mfg. Company, Chicago, and an authority upon standardization, having spent many months in standardizing various kinds of army equipment, accepted the chairmanship. It was also decided to include metal mines in the work of the committee, and it has later been proposed that such relative subjects as the standardization of mining practice and methods, safety codes, cost accounting, etc., come under the jurisdiction of the General Committee on Standards. It is also gratifying to note the co-operation being received from organizations which are interested in this subject. With the assistance of such organizations as the American Institute of Mining & Metallurgical Engineers, the United States Bureau of Mines, the National Safety Council, the Bureau of Standards, and the manufacturers of mining machinery, together with the operators who must eventually purchase the standardized machinery and equipment, there is little doubt as to the possibilities of this work.

The Coal Mining Division is divided into the following committees, each directed by a man especially qualified for the work to be done: Underground power transmission, mining and loading equipment, underground transportation, outside coal handling equipment, power equipment, ventilation, and drainage.

UNDERGROUND TRANSPORTATION

C. E. Watts, Chairman.



This committee, composed of prominent representatives from coal operators, manufacturers, consulting engineers, etc., has held several sessions during the past few months, and as indicated by their several reports submitted to the chairman of the General Committee, have made very substantial progress in reaching con-

clusions and making recommendations on several important features of underground transportation, including mine track ganges, track clearances, track curvatures and kindred subjects. The following companies are represented upon this committee by such able gentlemen as:

Charles M. Means, Consulting Engineer, Pittsburgh, Pa.; Graham Bright, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.; Joseph Bryan, General Electric Co., Pittsburgh, Pa.; F. C. Coseo, Jeffrey Manufacturing Co., Columbus, O.; D. F. Lepley, General Manager Connellsville Manufacturing & Supply Co., Connellsville, Pa.; C. W. Larson, Engineer, Mining Department, General Electric Co., Erie, Pa.; E. A. Waters, General Manager Hicks Coal Interests of Western Pennsylvania, Kiskiminetas Junction, Pa.; J. Milliken, President Industrial Car Manufacturers Institute, Pittsburgh, Pa.; T. A. Parker, Lincoln Steel & Forge Co., St. Louis, Mo.; A. H. Ehle, General Sales Manager Baldwin Locomotive Works, Philadelphia, Pa.; H. K. Porter, Sales Manager, Mine Car Department, Hyatt Roller Bearing Co., Sixth Ave. and 41st St., New York City.

MINING AND LOADING EQUIPMENT

Carl Scholz, Chairman.

This committee is composed of fourteen representatives. It has been somewhat slow in

completing organization, but has finally gotten down to work, and its first report, submitted recently by the chairman, indicates that it is now ready for active participation in the program of standardization. The work of this sub-committee is being carried on by:

D. J. Carroll, Chicago, Wilmington & Franklin Coal Co., Benton, Ill.; E. N. Zern, Mining Engineer and Editor Mining Catalog, Pittsburgh, Pa.; C. A. Cabell, Vice-President Carbon Coal Co., Kanawha National Bank Building, Charleston, W. Va.; N. D. Levin, Jeffrey Manufacturing Co., Columbus, O.; J. M. Clark, Clark & Krebs, Charleston, W. Va.; M. Mitchell, Sullivan Machine Co., St. Louis, Mo.; William Whaley, Myers-

Whaley Company, Knoxville, Tenn.; Wm. O. Duntley, Duntley-Dayton Co., Chicago, Ill.; E. S. McKinley, 625 Denham Building, Denver, Col.; E. G. Hamilton, 310 Schultz Building, Columbus, O.; Walter Stevens, Valier Coal Co., Valier, Ill.; S. W. Farnham, Mining Engineer, Goodman Manufacturing Co., Chicago, Ill.; E. K. Bowers, Morgan Gardner Electric Co., 68 E. Adams St., Chicago, Ill.



UNDERGROUND POWER TRANSMISSION

A. B. Kiser, Chairman.

This sub-committee is composed of five members besides the chairman, including representatives from the U. S. Bureau of Mines. It has had several sessions and has reached definite conclusions on important features of underground power transmission. It is expected to make a most interesting report to the annual convention. The work of this sub-committee is highly important, and under the direction of Mr. Kiser and his assistants, Harry M. Warren, Electrical Engineer D. L. & W. R. R., Scranton, Pa.;

W. A. Chandler, Electrical Engineer H. C. Frick Coal Co., Scottdale, Pa.; R. L. Kingsland, General Superintendent P. & M. Department, Consolidated Coal Co., Fairmont, W. Va.; Carl Lee, Electrical Engineer Peabody Coal Co., McCormick Building, Chicago, Ill.; L. S. Hsley, 4800 Forbes St., Pittsburgh, Pa. (Bureau of Mines), cannot but be of great assistance in the work of the General Committee.



DRAINAGE

Geo. R. Wood, Chairman.

This sub-committee is composed of six members besides the chairman and has its work well under way. Mr. Wood expects to make a satisfactory progress report to the conference. The following companies and their representatives make up this committee: M. C. Benedict, Berwind-White Coal Mining Co., Windber, Pa.;



Walter D. Stockley, Fairmont Mining Machinery Co., Fairmont, W. Va.; E. D. Knight, Cabin Creek Consolidated Coal Co., Kayford, W. Va.; E. F. Austin, Manager Mine Pump Department, Dravo-Doyle Company, Pittsburgh, Pa.

MINE VENTILATION

W. J. Montgomery, Chairman.

This sub-committee has five members selected from same sources as those mentioned

above, and its reports indicate considerable progress on the many important features of mine ventilation. The following members make up its personnel:



E. N. Zern, Mining Engineer and Editor Mining Catalog, Pittsburgh, Pa.; J. R. Robinson, President Robinson Ventilating Co., Pittsburgh, Pa.; G. E. Lyman, General Superintendent Madison Coal Corporation, Glen Carbon, Ill.; A. S. Richardson, Ventilating Engineer Anaconda Copper Mining Co., Butte, Mont.; W. A. Rowe, Chief Engineer American Blower Co., Detroit, Mich.

POWER EQUIPMENT

K. A. Pauly, Chairman.

There are sixteen members of this committee from representative companies, and the committee has been very active since the time of its organization. Chairman Pauly deserves a great deal of credit for the enthusiasm he has aroused in the members of his committee, and for the good work already done. An interesting report of the progress of this committee will be made to the conference. Its personnel is as follows:

D. C. McKeecham, Box 913, Union Pacific Coal Co., Rock Springs, Wyo.; G. S. Thompson, Colorado Fuel & Iron Co., Pueblo, Col.; H. F. Randolph, Consulting Engineer, 2330 Oliver Building, Pittsburgh, Pa.; M. D. Kirk, Pittsburgh Terminal R. R. Coal Co., Wabash Building, Pittsburgh, Pa.; R. W. E. Moore, Westinghouse Electric & Manufacturing Co., E. Pittsburgh, Pa.; R. L. Kingsland, Consolidated Coal Co., Fairmont, W. Va.; W. C. Shunk, Stonega Coal & Coke Co., Big Stone Gap, Va.; J. T. Jennings, Philadelphia & Reading Coal & Iron Co., Pottsville, Pa.; W. C. Adams, with Allen & Garcia, Chicago, Ill.; O. P. Hood, Chief Mechanical Engineer Bureau of Mines, Washington, D. C.; Gra-



Mining Co., Butte, Mont.

OUTSIDE COAL HANDLING EQUIPMENT

Col. Warren R. Roberts, Chairman.

This sub-committee is composed of seven representatives. The duties of the chairman of this sub-committee, as chairman of the general committee, have prevented him from giving the proper amount of time to directing the work of this sub-committee. However, the members of the sub-committee

ham Bright, Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.; A. J. Nicht, Allis-Chalmers Company, Milwaukee, Wis.; Stephen H. Green, Pacific Coast Coal Co., Seattle, Wash.; Charles Legrand, Phelps-Dodge Corporation, Douglas, Ariz.; Martin J. Lide, Consulting Engineer, Birmingham, Ala.; C. D. Woodward, Chief Electrical Engineer Anaconda Copper

have many important questions under consideration and will submit their recommendations in writing to the chairman at an early date, after which time the committee will have a meeting and draw up a report to be presented by the general committee at the annual convention. The following representative men make up this sub-committee:



Heyl & Patterson Co., Pittsburgh, Pa.

G. F. Osler, G. S. Carnegie Coal Co., Pittsburgh, Pa.; W. A. Bishop, G. S. Pocahontas Consolidated Collieries, Pocahontas, Va.; F. W. Whiteside, Chief Engineer Victor American Fuel Co., Denver, Col.; James Needham, General Manager St. Paul Coal Co., Chicago, Ill.; F. G. Morris, G. S. Coal Mines, Republic Iron & Steel Co., Sayreton, Ala.; A. J. Sayers, C. E. Link Belt Co., Chicago, Ill.; W. J. Patterson, President

CANADIAN MINING INSTITUTE IN ANNUAL CONVENTION

The meeting of the Canadian Institute of Mining and Metallurgy in Winnipeg October 25-27 was the first one ever held in western Canada. Papers on gold, copper, oil, coal and other minerals were read and a large exhibit containing specimens of all minerals of Manitoba and western Canada was held.

ALASKA GOLD AREA SURVEYED

The Goodpaster-Salchaket auriferous area of Alaska has been made the subject of a survey by Philip S. Smith, of the U. S. Geological Survey. The area is a continuation of the Fairbanks district formation. Mr. Smith, who has not yet returned to Washington, considers the field worthy of the attention of prospectors.

COLORADO AS A MINING STATE

BY THOMAS TONGE.

While gold mining attracted the first immigration to Colorado in the "sixties," followed by the mining of other metals and minerals, making mining the leading Colorado industry for many years, the subsequent development of agriculture and horticulture (mainly by means of artificial irrigation), live stock and manufacturing has relegated mining to a relatively subordinate, but still very important, position in the welfare of the state.

From 1859 to 1918, inclusive, official statistics show that Colorado has produced:

Gold	\$650,488,823
Silver	487,954,490
Lead	183,838,007
Copper	40,711,430
Zinc (since 1900).....	123,672,374
Total	\$1,486,665,124

The five leading producing counties to the end of 1918 have been—

1. Lake county (Leadville), 1860-1918—Silver, \$185,750,154; zinc, \$87,101,601; lead, \$84,886,537; gold, \$49,966,765; copper, \$14,277,177; total, \$421,982,234.

2. Teller county (Cripple Creek), 1891-1918—Gold, \$311,717,415; silver, \$1,043,157; total, \$312,760,572.

3. Gilpin county, 1859-1918—Gold, \$84,089,789; silver, \$8,415,377; copper, \$4,249,409; lead, \$2,531,575; zinc, \$41,753; total, \$99,327,903.

4. Pitkin county (Aspen), 1880-1918—Silver, \$71,116,849; lead, \$25,865,638; zinc, \$1,016,581; gold, \$578,035; copper, \$204,894; total, \$98,781,997.

5. San Miguel county (Telluride), 1875-1918—Gold, \$54,094,202; silver, \$25,088,584; lead, \$7,067,437; copper, \$2,232,134; zinc, \$1,456,606; total, \$89,939,963.

A brief historical review shows the evolution of Colorado mining and metallurgy as follows:

1859-1869.

Placer mining, by more or less primitive methods in Boulder, Chaffee, Clear Creek, Gilpin, Gunnison, Lake, Park and Summit counties, followed by lode mining and the erection of more or less unsatisfactory local

stamp-amalgamation and other mills, furnaces and other reduction plants for treatment of oxidized and sulphide ores.

In 1868 the first smelter in Colorado was built at Black Hawk, Gilpin county, making possible successful treatment of local sulphide ores. As showing the then local conditions, the fire bricks used in this smelter cost one dollar each, being brought by wagon 600 miles from the Missouri River and to that point by railway from St. Louis. The iron cost 22 cents per pound; skilled labor was \$8 per day and common labor, \$4 per day; smelting charges ranged from \$25 to \$40 per ton. There was no railroad nearer than the Missouri River. The matte had to be hauled to the Missouri River in wagons, thence by railroad to New York and thence to Swansea, Wales, where it was separated and the gold, silver, and copper refined.

The Colorado mineral production prior to 1870 is officially estimated at \$27,583,000, mostly gold.

1870-1879.

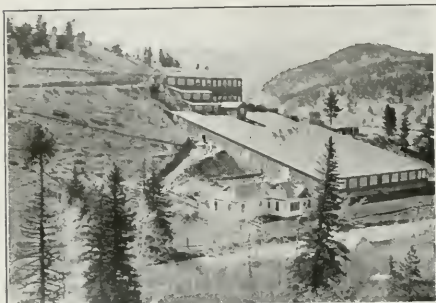
The first railroad reached Denver in 1870 and during this decade railroads reached the mining districts of Clear Creek and Gilpin counties, giving a great impetus to local mining.

The smelter at Black Hawk was moved to Denver as a more central point for ore, fuel and flux, and re-established on a much larger scale.

Mining also developed in Custer, Gunnison, Hinsdale, Ouray, San Miguel, San Juan and other counties not then reached by railroad.

In 1876 lead carbonates were discovered at Leadville, leading to the subsequent "boom" and the building of smelters at Leadville and Pueblo.

As a result, the state's annual mineral production rose from \$3,695,000 in 1870 to \$15,478,000 in 1879.



TUNGSTEN MILL,
COLORADO.

RESERVOIR
NEAR
LAKEWOOD.



SAN MIGUEL VALLEY
SEEN FROM
FALL CREEK MINE.



1880-1889.

During this decade railroads reached Breckenridge, Summit county, Red Cliff, Eagle county, Silverton, San Juan county, Leadville, Lake county, Ouray, Aspen, Pitkin county, Lake City, Hinsdale county, giving a further great impetus to mining.

The Grant and Globe smelters were built in Denver, and the Colorado and Philadelphia smelters in Pueblo.

The state's annual mineral output rose from \$22,035,241 in 1880 to \$26,932,995 in 1889.

1890-1899.

The two leading features of this decade were—

1. The demonetization of silver and the decline in price of the metal from \$1.04 per

ounce in 1890 to 60 cents per ounce in 1899. As a result, the value of the annual Colorado output of silver declined from \$19,665,245 in 1890 to \$13,771,731 in 1899. There was so much ore blocked out in various mining districts that shipments continued for several years, but further development ceased. Some mines closed and the men migrated to the gold mining districts.

2. The development of gold mining, especially at Cripple Creek, dating from 1891. The annual gold output of Colorado rose from \$4,150,000 in 1890 to \$26,508,675 in 1899.

In 1890 the railroad reached Telluride; in 1891, Creede and Rico; in 1894 two railroads reached Cripple Creek; in 1897 the railroad reached Ward and Eldora, Boulder county.

In 1893 three smelting plants in Denver employed 1,323 men.



A COLORADO MINING TOWN—CREEDE, COLO.

In 1897, 29,215 men were employed in the mining industry of Colorado.

During this decade, aerial wire trams took the place of pack animals; railroad extensions superseded wagon haul; there was a marked increase in the percentage of concentrates in the ore shipments; transmitted hydro-electric power became more common, effecting not only a saving in initial cost of plant, but 40 per cent and upwards in operating cost.

The Colorado output of gold, silver, copper and lead rose from \$29,643,445 in 1890 to \$47,746,783 in 1899.

1900-1909.

The special features of this decade were:

1. The evolution of the cyanide process, successfully and profitably treating the sulpho-telluride ores of Cripple Creek as low in grade as \$5.00 per ton.

2. The decline of the smelting industry in Colorado caused by—

(a) The practical cessation of receipts of ore from Old Mexico, Utah, Montana and other states by reason of the establishment of smelters at those places.

(b) Competition of chlorination and cyanide plants adjacent to the mines.

(c) Decline in supply of Colorado high grade smelting ore.

(d) Increased tonnage percentage of concentrates representing low grade ore. In 1878 the average value of the ore smelted had to be about \$100 per ton to leave a profit, as against the average value of \$25 per ton in 1899, including concentrates representing original crude ore reduced from 6 or 7 tons

use of diamond drills in prospecting and improvements in hoisting plants, pumping appliances and concentrating methods.

Colorado's output of the five leading metals for 1909 was \$33,211,527 as against \$50,314,019 in 1900.

The number of men employed in the Colorado mining industry in 1909 was 23,044.

1910-1919.

The special features of this decade are:

1. Introduction of flotation concentration at a number of mines.
2. The inclusion of over 14,000,000 acres in Colorado, ranging from 8,000 feet to 14,000 feet altitude, in 17 U. S. forest reserves.
3. The practical disappearance of the "old



SMUGGLER-UNION MILL, SAN MIGUEL COUNTY, COLO.

to one ton. The original average value of the ore reaching the smelters in 1909 was considerably less than \$25.

3. The solving of the zinc treatment problem at Leadville and other Colorado points. The value of the annual Colorado output of zinc rose from \$2,514,993 in 1902 to \$5,298,602 in 1906.

During this decade there was increased use of hydro-electric power, compressed air, improvements in machine drills, increased

time prospector" who formerly found the mines and sold out to "developing" capital.

4. Floating dredges replacing previous methods at the placers.

5. "War" conditions commencing with 1914 and present "after war" conditions, including scarcity of labor, inefficiency of much of the labor obtainable, high cost of labor and all mining supplies, increased freight, smelting and power charges, all making for higher cost of operation and produc-

tion, in many cases wiping out profit and causing closing down of mines; in other cases curtailing output; also deterring new capital from taking hold of meritorious mining enterprises.

ties of uranium, vanadium and some radium.

Tungsten, Colorado, particularly in Boulder county, has extensive tungsten deposits which, since 1900, but more particularly



LEADVILLE IN WINTER—MOUNT MASSIVE IN THE BACKGROUND.

As a result Colorado's annual output of the five leading metals declined from \$37,033,280 in 1912 to \$34,160,172 in 1918 and is officially estimated for 1919 at \$22,427,893.

With any return of or appreciable approach to pre-war conditions, Colorado mining will witness marked revival.

Other Colorado Metals.

Molybdenum. Colorado has very large deposits of this mineral, especially in Summit and Clear Creek counties, and mines which, within the last few years, produced and marketed considerable quantities of molybdenite until the fall in price following the close of the war stopped further operation.

Carnotite, uranium, vanadium and radium. In southwestern Colorado there are very extensive deposits of carnotite, controlled by a few companies, which within the last few years have produced considerable quan-

ties since 1910, have produced over \$10,000,000. Since 1918, the fall in price, by reason of reduced demand and foreign competition, has caused the tungsten mines to close down. Tungsten ore from China is now laid down at Colorado ferro-tungsten plants at prices with which Colorado tungsten mines cannot compete.

Colorado has also a number of other metals not calling for mention here.

Non-metallic Minerals.

Coal. Colorado has 17,830 square miles of coal fields, the estimated potential tonnage of which extends to twelve figures. It ranges in quality from black lignite and sub-bituminous varieties through various grades of bituminous to true anthracite. The coal output of Colorado in 1873 was 69,977 tons. In 1918 it was 12,558,005 tons.

Petroleum. Although Colorado has never

ranked high in petroleum it has produced crude oil steadily since 1887. The maximum output was recorded in 1892, being 824,000 barrels. The total output of the state to the end of 1919 was approximately 12,000,000 barrels.

Oil Shale. The most important undeveloped asset of Colorado is its oil shale deposits.

A bulletin issued several years ago by the U. S. Geological Survey, consisting of a detailed report of Professor Dean E. Winchester, says that in Colorado alone there is sufficient shale, in beds which are three feet or more thick and capable of yielding more oil per ton than the average shale now mined in Scotland, to yield about 20,000,000,000 barrels of crude oil, from which 2,000,000,000 barrels of gasoline may be extracted by ordinary methods of refining, and, in addition to the oil, should produce, with but little added cost, about 300,000,000 tons of ammonium sulphate.

The local oil shale situation was recently summarized by Governor Shoup of Colorado as follows:

"The development of Colorado's vast deposits of rich oil shale, which is certain to begin aggressively in the very near future, promises to build up one of the largest and most important manufacturing industries in the west. These shales, most of which are tributary to the Denver & Rio Grande Railway, are generally richer in oil than those of Scotland, from which the extraction of oil has been successfully carried on for a great number of years. While the processes employed for the treatment of these shales in Scotland, are apparently not commercially practicable for the treatment of Colorado shales, new processes are being developed which promise successful operation very soon. The mining of these vast deposits of oil shale, together with the extracting and refining of the oil and the treatment of the various by-products, may soon be developed to such an extent as to rival the largest industries in this state."



MOUNTAIN OF OIL SHALE IN WESTERN COLORADO ON LINE OF
DENVER & RIO GRANDE RAILWAY.

REVIEW OF ACTIVITIES OF MINING CONGRESS CHAPTERS

NEW MEXICO OPERATORS FORM STRONG ORGANIZATION.

The latest addition to the "Mining Congress family" is a new chapter of the American Mining Congress in New Mexico. While this chapter is scarcely a month old, it came into being with the support of practically every mining man in the state and undoubtedly will be a big factor in the mining

sented the national organization. This interest culminated in the forming of the state chapter at the meeting held at Silver City, October 4. Herbert Wilson Smith, Chief of the War Minerals and Tariff Division of the American Mining Congress, himself formerly a New Mexico mining man, represented the national organization and assisted in the formation of the chapter.

The *Silver City Enterprise* carried an interesting account of the meeting, from which we quote:

"Mining men of the state met at Silver City, New Mexico, on Monday, October 4, for the purpose of organizing a chapter of the American Mining Congress. The attendance was large, showing a healthy interest in the greatest industry of the state.

"The New Mexico Mining Association, organized last August, was merged into the great national mining body, the following became charter members of the New Mexico chapter: P. H. Argall, Magdalena; Jno. D. Clark, Albuquerque; C. A. Kaseman, Albuquerque; R. S. Welner, El Paso, Texas; E. D. Lidstone, Silver City; J. A. Carruth, Santa Fe; Chas. F. Fishback, Fort Sumner; John M. Sully, Santa Rita; Max Hiltcher, Hillsboro; Ernest McAulay, El Paso, Texas; John H. McCutcheon, Chloride; Powell Stackhouse, Jr., San Antonio; C. T. Brown, Socorro; W. S. Haly, Hurley; G. L. Webster, Hurley; O. F. Riser, Hurley; D. W. Boise, Hurley; M. W. Porterfield, Silver City; Herbert C. Denny, Gallup; Percy Wilson, Silver City; Herbert Wilson Smith, Santa Fe; S. J. Kidder, Mogollon; Ira L. Wright, Silver City; O. Wiser, El Paso, Texas; Horace Moses, Santa Rita; Robert I. Kirchman, Silver City; F. W. Vellacott, Silver City; I. J. Stauber, Lake Valley; S. L. Houghton, Fierro; John H. McCutcheon, Jr., Chloride; J. D. Harlan, Silver City; Norval J. Welsh, Gage; Lloyd M. Kniffin, Fierro; A. Russell Davidson, Fierro; James P. Portous, Lordsburg; Wm. R. McComb, Silver City; C. W. Mitchell, Silver City; M. S. Nord, Deming; B. B. Hangar, Albuquerque; E. M. Sawyer, Tyrone; W. D. Brennen, Dawson; J. B. Gilchrist, Silver City; W. D. Murray, Silver City; T. L. Lowe, Silver City; K. A. Strand, Hanover; Donald C. Miller, Tyrone; Chas. W. Davis, Gallup; B. H. Kinney, Tokay; A.



BURTON BUNCH,
Secretary New Mexico Chapter

Industry, which is the most important in New Mexico. Many mining men of New Mexico have been individually interested and have been supporting the national work at Washington for many years. John M. Sully has been state vice president for New Mexico for the past two years, and for several years previous. C. T. Brown repre-

L. Owen, Santa Rita; Henry Girtz, Silver City; C. Amory Stevens, New York City.

"Herbert Wilson Smith of Washington, D. C., was present, representing the national organization, and assisted materially in organizing the chapter, and before adjournment expressed himself as greatly pleased with the attendance and the enthusiasm shown.

"After the completion of the charter list the election of a board of directors of fourteen members was undertaken, with the following result:

E. M. Sawyer, Grant; C. T. Brown, Socorro; J. M. Sully, Grant; Ira L. Wright, Grant; Powell Stackhouse, Socorro; B. B. Hangar, McKinley; S. J. Kidder, Socorro; M. W. Porterfield, Grant; John H. McCutcheon, Sierra; L. M. Kniffin, Grant; Norval J. Welsh, Luna; F. W. Vellacott, Grant; I. J. Stauber, Sierra; R. I. Kirchman, Grant.

"The elected board of directors then met and elected the following officers for the coming year:

"Governor, C. T. Brown; first vice, I. J. Stauber; second vice, R. I. Kirchman; third vice, Powell Stackhouse; treasurer, Ira L. Wright; secretary, Burton Bunch, of Silver City.

"The directors then selected a number of working committees and opened the evening session for a general discussion of all matters of importance to the mining industry of the state and nation. The matter of taxation was, very naturally, up for discussion, and a most remarkable development was noticed. Every representative mining man expressing himself in the meeting was for the mining interests bearing a full and equitable share of the tax burden of the state, but failed to produce anything promising to be an acceptable substitute for the present methods used. With a room full of the best mining engineers of the southwest, they had not a man feeling himself competent to actually value a mining property for taxation, and they were frank in expressing their inability to undertake it or suggest a method. They all agreed that when the ore was actually extracted, treated and marketed, that they could read the results. The uncertainties preceding the actual sale were too complicated for men of experience. The reporter, with recent political utterances in mind, thought of that old saw: 'Fools rush in where angels fear to tread.'

"After a long discussion of the tax matters it was agreed that a knowledge of the actual facts and conditions would best inform the people of the state as to taxable values, and individuals were urged to do what they could to make public facts from their several districts. It was the opinion of all present

that the chapter had no place in partisan politics and that the organization should, and safely could, rely upon the good sense of the general public to give the industry a fair deal.

"The business sessions of the chapter were concluded late Monday evening, but the working committees will continue activities until the mining men of the state are made acquainted with the importance of giving this new chapter proper support."

RESUME OF ARIZONA CHAPTER ACTIVITIES FOR YEAR

In the latter part of 1919 an association known as the Arizona Oil Consumer's Association (being a sub-section of the Arizona Chapter, A. M. C.) was formed, its membership including practically all of the operating mining companies of Arizona and northern Sonora (Mexico), with the object in view of making a united stand in combatting proposed increased freight rates on fuel oil from



J. E. CURRY,
Secretary Arizona Chapter.

Texas, which would reflect in favor of the California oil producer. Under the very capable leadership of T. Evans, general manager, the Greene-Cananea Copper Company, as its chairman, with George Jay of Warren,

Arizona, as secretary, this association was able to give a mighty good accounting of its efforts.

So successful had been the efforts of the Arizona Oil Consumer's Association that in the early part of the new year it was decided that a more permanent organization should be formed to succeed and take up the work it had started. The succeeding organization, known as the Arizona Freight Payers' Association (a sub-section of the Arizona Chapter, A. M. C.), was therefore formed, Mr. T. Evans chairman and George Jay secretary.

Throughout the present year the Arizona Freight Payers' Association has been a very active and effective body. Through its efforts capable representatives have attended three important freight meetings up to this time, including the inter-mountain rate case meetings held in San Francisco late in May, the hearings of the Interstate Commerce Commission held in Washington during the month of June and the intra-state rate cases heard before the Arizona Corporation Commission in Phoenix on September 15. At each of these meetings representatives of the Arizona Freight Payers' Association made intelligent presentation of comparative data on freight charges and vigorous protests against material increases affecting the copper mining industry of the state.

A stagnant copper market, with prices for the metal representing a figure close to the cost of producing a wasting asset, and increasingly high costs has been the outlook for the Arizona copper mining operator for the last two years. In spite of this, and inspired by the highest ideals of moral duty to the various copper mining communities of the state, the companies have continued their operations to the fullest possible proportions—aiding their employees to combat the H. C. L. by paying war-period scales of wages (based on 22½-cent copper) when for the most of this period bids for copper seldom exceeded 18 cents. With increasing prices for fuel, timber and other mining supplies, it is not to be wondered at that the Arizona mining operators united to vigorously protest against increased freight charges and other burdens.

Consideration has also been given looking to a careful study of large expenditures of state monies upon highways and other projects, with a view of determining approximate efficiencies in these expenditures.

While the most of the mining operations in Arizona are confined to the mining of copper, with but a small gold production as a by-product of this metal, the Arizona mine operators have joined to aid in the promotion of proposed remedial legislation aimed at relieving the gold miners of the state. The McFadden Bill, framed to stimulate the

mining of gold and to relieve the gold miner who has been staggering under a tremendous load for the last five years, has received general approval and support from the mining fraternity of the state. It is to be hoped that this legislation may be enacted into law and should reflect not only to the credit of the gold mining operations of the country but to the benefit of accumulation of greater gold reserves to stabilize our general monetary system.

CALIFORNIA CHAPTER

The California Metal and Mineral Producers' Association, which is the official Chapter of The American Mining Congress in California, has had a discouraging year in many respects, but still reports progress in many matters. The serious condition in which the gold mines of the country find themselves has resulted in the closing down of many properties and the mining of war minerals has practically ceased. George W. Starr, president of our association, rendered his annual report to the Chapter on October 27, and as it gives briefly the work that has been carried on during the year we quote from it as follows:

"The affiliation of the Association with The American Mining Congress, effective October 22, 1919, by resolution adopted June 25, 1919, has been of material benefit to your Board of Directors and to the individual members of the Association.

"Immediately upon such affiliation and reorganization, a campaign to increase the membership was instituted which resulted in a slight gain in corporate membership and the addition of 36 active members. In August last another attempt to increase the membership was made in connection with the effort of our Engineer to secure data relative to the electric power consumption of the industry, but without material results.

"The corporate membership was increased by four members during the year; four companies have suspended operations and are not contributing to the support of the Association, several have either suspended or curtailed operations, due to high costs and the shortage of electric power, and three compelled to cease extensive operations on account of underground mine fires.

"The twenty-second annual convention of The American Mining Congress was held in St. Louis, November 17 to 21, 1919, and was reported as one of the most successful meetings of that organization since its inception. Edwin Higgins, as active member of this Association, attended the convention as its authorized representative. The membership was further represented by Bulkeley Wells,

President of the Congress; Fletcher Hamilton, State Mineralogist, and by Senator Voorheis of the Atolia and Bunker Hill Mining Companies, all of whom took an active part in its deliberations. As a result of resolutions adopted at the Convention, there is now pending in the congress of the United States a measure providing for the relief of the gold-mining industry, known as the McFadden bill. This measure has had the united support of our Board of Directors and we hope for favorable consideration of the measure when Congress convenes in December.



ROBERT I. KERR,
Secretary California Chapter.

"The twenty-third annual convention of the said Congress will be held in Denver, Colorado, November 15 to 19, 1920, to which a delegation will be sent to represent this Chapter.

Mine Rescue Truck.

"In accordance with a request made in the said Congress will be held in Denver, Colorado, November 15 to 19, 1920, to which a delegation will be sent to represent this Chapter.

"In accordance with a request made in Senate Joint Resolution No. 34, adopted by the California Legislature on April 22, 1919, the federal government has provided the state of California with a mine rescue truck and apparatus of use in case of mine fires, also a crew for training miners in first aid and mine rescue work.

"This truck is in charge of local representatives of the Bureau of Mines, is located in the mines building of the University of California at Berkeley, and is subject to call by operators in case of serious mine disaster, also for the purpose of training men in first aid and mine rescue work.

Mine Safety Rules.

"In December of last year, at the request of the Industrial Accident Commission, five members of this Association were suggested and finally appointed to act on a committee for the revision of the Mine Safety Rules, to be hereafter referred to as Mine Safety Orders. Such revision was completed in March, 1920, and a tentative report of the committee issued by the Commission in July of the present year. On August 17, a public hearing was held for a general discussion of the report of the committee. This meeting was largely attended by members of the Association and some important changes suggested to the committee before final adoption.

"The Commission reports that the rules or orders as finally adopted will become effective on or about January 1, 1921.

"The disposition on the part of the engineers of the Commission to be fair and reasonable in the discussion of the proposed orders was extremely gratifying. In fact, the attitude taken by the engineers and other officials of the Commission, in consulting with the engineer and secretary of this Association in all matters relative to mine safety regulations at the mines of members, has been most satisfactory. The Board of Directors consider the harmony resulting from such cordial relationship an outstanding accomplishment of this Association.

Debris Commission.

"The engineers in charge of the investigative work conducted by the California Debris Commission under Act of Congress, approved March 1, 1893, providing for the enforcement of rules and regulations protecting the drainage areas of the Sacramento and San Joaquin Rivers from tailings, etc., have shown a disposition of fairness in enforcing the law relative to the restraint of mill tailings, and from personal observations I believe that they are inclined to assist the miner as much as possible.

Legislation.

"In January next we will again be compelled to deal with the generous activities of another legislature. The attitude taken by the labor unions in the present campaign indicates the importance of maintaining

proper representation at the forthcoming session of that body.

"Matters dealing with the increase in rates for electric energy, the application now pending before the railroad commission for the establishment of permanent rates and the present curtailment, will be taken up and discussed in detail in the report of the engineer of the Association."

UTAH CHAPTER

Adverse market, labor and transportation conditions have made 1920 another unsatisfactory year for Utah metal producers. Production increased slightly in the first half of the year over the corresponding period of 1919, but curtailment of shipments since

state, in fact, throughout the western metal mining region; a condition that has produced much speculation but no definite answer to the question, "What has become of the metal miners?"

Several of the Utah camps suffered loss and inconvenience through car shortages several times in the year.

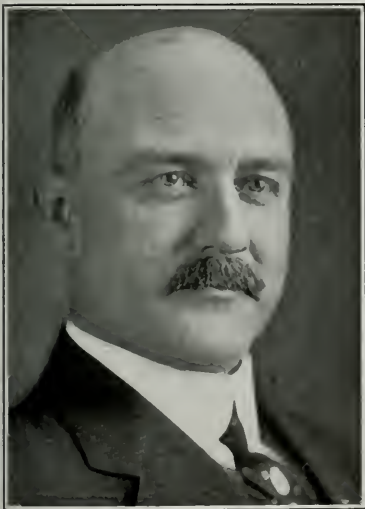
The railroad freight increase of August 26 resulted in a raise from \$16.50 to \$22.15 a ton from the Utah smelters to the eastern refineries. The present rate represents an increase of more than 100 per cent on bullion since June 24, 1918, the rate prior to that date having been \$10.35. The Utah Public Utilities Commission, after a hearing at which testimony regarding the local situation was presented under the direction of the Utah Chapter of the American Mining Congress, rendered a decision August 24, which exempted coal and ores from the increases of 25 per cent imposed on interstate traffic August 26. This relief was granted as a result of testimony regarding the general mining situation by the secretary of the Utah Chapter and testimony regarding individual companies by their officers, some of whom testified that the increase would force them to suspend operations entirely.

Wage scales continued at wartime figures. An interesting development of the year has been adoption and extension of the contract and bonus systems by leading properties with the view to increasing efficiency. Those who have tried these plans are generally disposed to believe that the experiment will prove advantageous but defer definite expression pending further experience with it.

There were no labor disturbances of consequence. The I. W. W. endeavored to call strikes several times early in the year, but failed to accomplish anything worth mention.

The coal mines of the state have had a much better year than the metal mines. Market conditions have been such as to enable the operators readily to dispose of all the coal they could produce. Like the metal mine operators, the coal men have suffered somewhat through shortage of labor and cars, although not to the same extent as the metal mines.

Among the activities of the Utah Chapter this year was the assembling of data for presentation at Washington to assure that



BY A. G. MACKENZIE,
Secretary Utah Chapter

July 1 will probably bring the year's output down to the level of 1919.

The labor supply has been insufficient, even with production decreased more than 50 per cent as compared with 1918. The labor shortage has been general throughout the

the operations of the Pittman act were made applicable to the Utah situation. The efforts proved successful and the action at Washington undoubtedly prevented the closing of several Utah mines.

A meeting with H. N. Lawrie of the American Mining Congress to discuss the gold situation and an informal reception to Messrs. George L. Nye and G. H. Montagne, counsel for the American Mining Congress in the Minerals Separation proceedings, took place in July. There were many meetings of officers and other members of the chapter during the year.

Mining properties of the state generally are in splendid physical condition. The progress that has been made here to improve operating and safety conditions was noted by Dorsey A. Lyon of the U. S. Bureau of Mines in a published statement July 17, in which he remarked that the "methods used in Utah are a decided benefit to the country and a credit to the efficiency and humanitarianism of the mining enterprises of the state." Mr. Lyon especially commended the system of mine hoist signaling which was prepared by C. A. Allen, chief of the mine inspection department of Utah, in co-operation with a committee of Utah operators, and announced that the Bureau of Mines would do all in its power to extend the Utah system to mining operations in other states.

COLORADO CHAPTER.

The benefit of united action and co-operative effort was never more strikingly illustrated than during the present year, and the record of accomplishment to the credit of the Colorado chapter of the American Mining Congress and its allied organization, the Colorado Metal Mining Association, is one of which the members are justly proud. These two organizations work in complete harmony and with an interlocking directorate and quite often the same working committees, no friction occurs. Nominally the Metal Mining Association is supposed to work out state problems, while the chapter is in charge of activities requiring co-operative effort outside the state. The same secretary serves for both organizations, and the record of one organization is more or less the record of the other, and no effort is made to definitely separate them.

The organization comprises at least ninety-five per cent of the operating mines in the state and has successfully functioned for almost eight years. The outstanding activities of the association the past year has been the defeat of a well organized effort to initiate a drastic taxation law, and co-operative work with the carriers in adjusting freight rates on ores and concentrates.

The organization was confronted the first of the year by a well organized effort of the Colorado Tax Commission to secure the repeal of the present mine taxation laws and to have enacted in its stead, a law which would increase the tax on metal mines several fold. By an adroit campaign of mis-statements and innuendo, the Tax Commission sought to convey the idea that the metal mines were not paying their just proportion of taxes as compared with farming communities and industrial centers.

The Tax Commission secured the appointment of a committee consisting of a member each from the Stockgrowers' Association, the State Grange, the County Commissioners' Association, the County Assessors' Association, the Metal Mining Association and the Tax Commission, to draft a new law to be submitted for initiation at the November election. This committee, dominated by the Tax Commission, prepared a most drastic bill, which if adopted would have increased the taxes on producing mines four times the present rate and would have left the valuation of non-producing mines subject to the whims of the assessor.

By a campaign of publicity the association was able to prevent the Tax Commission from receiving the necessary support and they were unable to secure the required number of signatures to the petition to have the measure submitted to the voters at the November election. It is probable that the bill, possibly in a modified form, will come up before the legislature at the January session. Through co-operative effort, mining men were able to defeat a measure, which had it carried at the November election, would have meant absolute disaster to the mining industry of the state.

Since the increase in freight rates authorized by the Interstate Commerce Commission became effective, much time has been devoted by the organization in securing a readjustment of rates for intra-state shipments. Co-operating with the carriers, the association has been able to secure the restoration of the old rate on low grade ores and concentrates shipped from points of origin to destinations within the state. In certain districts even greater concessions have been made where conditions have been such that a special rate was necessary to move the ore. Freight rates on ores and

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OFFICERS:

Bulkeley Wells, President.
Harry L. Day, First Vice-President.
Daniel B. Wentz, Second Vice-President.
E. L. Doheny, Third Vice-President.
J. F. Callbreath, Secretary.

DIRECTORS:

Bulkeley Wells, Denver, Col.
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New York Office: 507 Fifth Ave. Tel., Murray
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concentrates are rapidly being adjusted throughout the state.

Application has been made to the Western Trunk Line Committee for a readjustment of rates on zinc ores shipped from points of origin in Colorado to smelting points in Oklahoma, Kansas and other eastern points, and already concessions have been granted which have very materially relieved the situation.

Investigation has shown that the present rates on bullion shipped from western smelting points to refining points on the Atlantic seaboard are a heavy tax upon the mining industry, and steps have been taken to enlist the co-operation of western producers of lead and copper in securing a readjustment of bullion rates.

The success of the chapter and association in handling these problems this year has greatly strengthened the organization, and has resulted in a very material increase in membership, despite the depressed condition of the industry.

TREASURE STATE MAY HAVE MINING CONGRESS CHAPTER

The *Independent*, of Helena, Mont., recently printed the following:

"Montana is about to obtain representation in the American Mining Congress of Washington, D. C. W. H. Knowles, field representative of the organization, arrived in Montana this week and he will spend several weeks here forming the Montana chapter. For many years Montana mining men have waited for the formation of a state chapter and continued efforts have at last resulted in success.

"The American Mining Congress was organized in 1897, but this is the first effort ever made to secure a chapter in Montana. The organization was perfected for the purpose of bringing about safety and efficiency in mining operations; intelligent conservation, with a view to the highest utilization and the prevention of waste of mineral resources; the protection of mining investors against fraud and misrepresentation—the stimulation of investment in real mining and to demonstrate that mining is a business and not a gamble; uniformity in state laws governing mining operations carried on under like conditions, and such federal co-operation through research and investigation as will solve those problems of production, treatment and transportation which are essential to the highest development of the mining industry.

"Membership is confined to persons directly or indirectly connected with the mining, smelting and oil business."

ZINC AND LEAD CONFERENCE

More than 150 companies were represented at the zinc and lead conference held in St. Louis during the early part of last month. It developed that the chief problems in connection with zinc are the manner of ore dressing and the handling of dirt underground. Following the meeting, John Gross, of the Bureau of Mines, began an investigation of milling operations of the mid-continental zinc and lead region.

PROBLEMS INVESTIGATED BY BUREAU OF MINES STATIONS

Investigations at the Bureau of Mines experiment stations during the fiscal year just concluded and the current calendar year included a very wide variety of subjects of interest to mining men. Several illuminating reports embracing data as to discoveries made and conclusions reached have been made by members of the Bureau's staff, but the majority of all investigations still continue. Some of them will be concluded during the year but many more will be extended into the future, and communications will be made to the industry from time to time.

Experiments covering the widest range of subjects are being carried on at the Pittsburgh station. These cover investigations into a score of aluminum problems; practically every problem which can arise in or about a coal mine; microscopic studies of crucibles; the use and development of gas masks; investigations in connection with the determination of graphite carbon; nitro-glycerine; oxides; nitrogen; corrosion of rifles; sulphur; chlorination of natural gas; automobile exhaust gases; mixtures of coal, water and oil; stenches in mines; electricity in mines and numerous other subjects which would require a page for enumeration.

Other investigations have been made and are being made of the electric burning of cement, at Seattle; coal mine subsidence and various coal problems, at Urbanna; luminous materials, future work on pseudo-isotopy, ore dressing and flotation of rare metals, at Reno; kaolins of western Washington and northern Idaho, silica brick, Washington clays, Idaho clays, future work on electro-metallurgy, coal concentrate froth flotation, preparation and tests of super-refractories, and the water power resources of the Pacific Northwest, at Seattle.

Salt Lake investigations include oil shale; potash and alumina extraction from low-grade alunite; zinc problems; chloride volatilization, copper volatilization, and lead and silver volatilization.

Investigations are being made at Bedford Hills, New York, of heat treatment of carbon steels; and at Columbus, Ohio, of clays and other ceramic materials.

Copper Experiments.

Because of the paramount importance at porphyry copper mines of treating mixed sulphide and nonsulphide ores, the station at Tucson has made this investigation its major problem. Sulphur dioxide leaching tests are being made in cooperation with the Miami Copper Company, this company having constructed a 100-ton leaching plant where the operations are carried on intermittently under the direction of a member of the Tucson station staff. Experimentations developed that certain very finely disseminated silicates of copper in the Miami ores were quite refractory. Recently comparative sul-

phuric acid leaching experiments followed by electrolytic precipitation were carried on. These experiments are being continued and will not be finished before the expiration of the current year.

A co-operative agreement made in 1918 with the Shannon Copper Company and allowed to elapse on account of industrial conditions was recently revived with the Arizona Copper Company, which purchased its Clifton interests, with the result that a 25-ton leaching plant was constructed and operations started on June 1, 1920. The purpose of experimentation is to demonstrate the economy of SO_2 leaching on



MAKING INSTRUMENTS FOR BUREAU OF MINES EXPERIMENT STATIONS.

This laboratory aided the submarine, artillery and infantry forces during the war.

limy ores. Since the Arizona Copper Company has previously operated for more than a year a sulphuric acid leaching plant of the same capacity, it will be possible to obtain comparative results. This work is expected to be completed the latter part of this year.

Differential Flotation.

Investigations in the treatment of copper ore with special reference to differential flotation have been conducted at the Bureau of Mines' field office, Moscow, Idaho, on ore from the Red Lead Mine in the "Seven Devils District." The ore is a complex sulphide consisting of pyrite, sphalerite, chalcopryrite, chalcocite, galena, and barite minerals. It also contains silver and gold. The pyrite is the predominating sulphide mineral. Microscopic examination was made and segregation tests were carried out in studying the relationship of the minerals and determining the locus of the silver and gold content. The microscopic study included the examination of screen products from screen analyses of crushed ore in order to determine the size to which the ore should be crushed to liberate most of the mechanically combined mineral particles

from each other and also the gangue. The segregation tests consisted in separating the various minerals from each other by hand-picking and pan concentration, thus obtaining clean minerals for assaying. The individual minerals were then assayed in order to determine in which the silver and gold occurred.

After these tests were made flotation tests were run, and official announcements have been made that favorable results were not obtained. A good separation of the copper from the iron and other sulphide minerals by differential flotation was not effected, and a further study of the same problem at the Salt Lake station demonstrated that such separation would be very difficult.

Lake Superior Methods.

The study of methods used in the iron mines of the Lake Superior district is being carried on at the station at Minneapolis. Considerable data including descriptive notes, maps, photographs, and flow-sheets of mills has been collected.

At the same station, a study of accumulations of non-merchantable iron ores is being made in co-operation with the University of Minnesota. The ores involved are non-

merchantable either on account of their fineness or, as in many cases, by reason of having been broken in the course of mining high-grade ores and of having been rendered too low in grade for shipment at the present time.

Black Sand Gold Recovery.

Experiments in the recovery of gold from black sand were carried on at the station at Fairbanks, Alaska. Concentration and amalgamation tests were made and considerable data obtained in the treatment of these sands has been published. Definite data on gold losses sustained by use of cyanide during amalgamation was obtained and the recommendation was made to operators that caustic soda or soda ash be used in place of cyanide.

Discouraging results only have been obtained at the Fairbanks station through in-

vestigations into the recovery of gold from antimony ore. This problem was undertaken as supplementary to concentration tests made on a Nome antimony ore, as the concentration did not affect the separation of the gold and silver.

A semi-commercial retort has been constructed at Salt Lake station for the purpose of investigating oil shale, of which there are almost limitless quantities in Utah, Colorado, Wyoming and Nevada. It has been estimated that these reserves, so frequently described as "mountains" of shale, contain more oil than any known petroleum fields. The metallurgical research department of the University of Utah is co-operating in this investigation and the state of Utah has contributed \$10,000 toward the expense of the work. During the last year the investigations have gone a long way toward develop-



CRUSHING AND SCREENING SAMPLE OF COAL CUT FROM CHANNEL AT THE WORKING FACE



TESTING FUEL OIL FOR SULPHUR CONTENT AND HEATING VALUE.

Sulphur testing apparatus at left in hood in background.

ing standard methods of assaying shales for their oil yield. Considerable general information on the whole subject of oil shale has also been collected.

Molybdenum Ores.

Active experiments with molybdenum ores have been temporarily set aside at the Golden, Colorado, station for the last year during the preparation of the rare metals analytical bulletin. The station expects to maintain a close contact with this branch of metallurgy especially in view of the expected increase of interest in molybdenum and the co-operation on molybdenum steel.

At the Golden station radium researches are being carried on as rapidly as possible. A representative of the Colorado School of Mines is co-operating in these investigations.

Bartlesville Refinery.

One of the most interesting series of investigations is being carried on at the Bartlesville, Oklahoma, station. In general these investigations will include any and all problems which may arise in connection with petroleum. The station has constructed a miniature refinery complete in every

detail. The plant consists of three one-barrel stills, one five-barrel still, condenser, agitators, run-down tanks and, in fact, all other equipment of a large refinery. It is being operated at present as a topping plant, and the studies of the investigators are confined to the production of light oils. It will be possible in a very short while to manufacture at this miniature establishment all products which are now turned out by the largest commercial refineries and to investigate any petroleum problem which may arise.

Study of Safety Devices.

The Pittsburgh station has been giving, and is still giving, the attention of some of its best experts to the improvement of mine safety devices and the development of new and better methods for preventing accidents and saving the lives of underground workers. As a result of these investigations manuscripts are now being prepared from reports by the stations' experts on rules for the construction of standard platforms, railings and toe-boards for use about mines; safe practices for the operation of steam engines, including rules for guarding from moving parts; safe practices for boilers, including rules for operation of plants and a description of safety appliances which are

recommended; and specifications and descriptions of portable ladders for use underground and on the surface about mines. Other investigations include a study of safety catches for mine cages, the purpose being to determine the shortcomings of appliances now in use and to establish more nearly standardized appliances. A study of shaft-gates used in coal mining regions, especially those operated automatically, has been and is still being made. It is the intention of the bureau at the conclusion of these investigations to draft a code covering mechanical equipment in coal mines with the idea that a standardized system may eventually be incorporated into the laws of the various states.

Volatility of Silver Chloride.

An investigation of the volatility of silver chloride has been under way at the Berkeley, California, station to secure information needed in connection with volatilization experiments at the Salt Lake City station. The work has been going on more than a year and, as in the case of lead chloride investigations, the vapor pressure of silver chloride is being determined by the gas saturation method. Side reactions which may interfere with the vaporization of silver chloride are also being studied. Improvements in apparatus and procedure have been developed, but on the whole the investigations have not been completed.

Work on the chemical behavior of silver compounds at high temperature has been conducted at the Berkeley station in co-operation with the Salt Lake City station, and some of the results arrived at have been announced. The more important results showed that in an oxidizing atmosphere silver sulphide mineral yielded metallic silver at a relatively low temperature; that silver chloride is probably the only volatile compound of silver which needs to be considered in connection with the volatilization process and that silver chloride is readily decomposed by water vapor with the formation of metallic silver unless a certain concentration of chlorine and hydrochloric acid gases, termed the "protective chlorine," is maintained.

Vanadium Researches.

Active researches on hydro-metallurgical metals for the various vanadium ores were suspended during the spring of 1920 at the Golden, Colorado, station, because of the resignation of a member of the Bureau of Mines staff. The station maintains a general contact with the subject, however, examines field specimens as they come in and is prepared to resume active investigations.

Forty mining and metallurgical concerns, universities and state organizations have entered into agreements with the Bureau of Mines to do co-operative mineral research work at government stations and elsewhere. Following is a list, together with the amount of money each cooperating agency is spending during the current year:

States.

California Industrial Commission..	Mutual
Utah Mining & Industrial Commission	Mutual
Colorado	\$10,000.00
Oklahoma	12,500.00
Oregon Bureau of Mines and Geology	1,500.00
Penn. Geological Survey	10,000.00
Industrial Commission of Utah...	4,500.00
N. Y.-N. J. Bridge & Tunnel Commission	38,000.00
Idaho Bureau of Mines and Geology	7,500.00
Geological Survey Division of Illinois	4,600.00
	<hr/>
	\$86,600.00

University Agencies.

Ohio State University	\$23,500.00
Colorado School of Mines	15,000.00
Cornell University	5,000.00
University of Minnesota	20,000.00
University of Idaho .....	.....
University of Utah	12,500.00
University of Washington	10,000.00
University of Arizona	10,000.00
University of Illinois	4,600.00
University of Utah, Salt Lake City, and Osborn Monnett	10,000.00
Colorado School of Mines and the Primos Chemical Company	3,500.00
Carnegie Institute of Technology ..	Mutual
	<hr/>
	\$114,100.00

Private and Other Agencies.

Bartlesville, Okla., Chamber of Commerce	\$50,000.00
The Midwest Refining Company and the Ohio Oil Co.	30,000.00
War Department, General Staff ..	4,100.00
Erie City Iron Works	1,000.00
The Koppers Company	4,000.00
National Tube Company	2,000.00
Northwest Magnesite Company	3,000.00
Ocotillo Products Co.	Mutual
Pope-Shenon Mining Company	Mutual
Puget Sound Traction, Light & Power Co.	Mutual
Sinclair Refining Company	25,000.00
American Society of Heating & Ventilating Engineers	15,000.00
Panhandle Oil Company	Mutual
Miami Copper Company	100,000.00
Dr. Henry M. Howe	6,000.00
Trent Process Corporation	15,000.00
Sewalls Point Coal Exchange	20,000.00
Monongahela Valley Traction Co. ..	Mutual
	<hr/>
	\$275,100.00
Expended by various industries in production of motion pictures of mining and metallurgical industries under direction of Bureau ..	37,000.00
Total	<hr/>
	\$512,800.00

UNANIMOUS BUSINESS PROPOSALS ESSENTIAL FOR EARLY TAX REFORM

BY ROBT. G. WILSON,

Chief of the Tar Division of The American Mining Congress.

Demand is heard from all sections of the country for immediate and radical improvement in the system of federal taxation.

Heretofore the chances for early corrective legislation have been encouraging. Today they are dubious. Tomorrow the possibilities may be better, but it means quick work.

The trouble lies not so much within the government as without. Representatives of all branches of industry, in collaboration with tax authorities—economists, government officials and practical specialists—have been engaged for many months in studying the problem. A tremendous amount of statistical and research work has been accomplished. There has been much common sense in it all. The reports of the various organizations reflect a fine order of intelligence and devotion to the most complex of tasks—but the results conflict.

In the beginning of the work there was an admirable unity of purpose. It was commonly agreed that the excess profits tax should be abolished and replaced by a sane, equitable and practicable substitute or substitutes; also, that the present too ambitious income tax should be modified and an equivalent amount of revenue provided by an equable distribution of the burden. Practical remedies should be sought.

And so they began, the National Industrial Tax Conference, including the National Industrial Conference Board, the American Petroleum Institute and the American Mining Congress; the United States Chamber of Commerce, the Business Men's National Tax Committee, the National Association of Credit Men, the Investment Bankers Association, the National Association of Manufacturers, the Broadway Association, and many others. Agriculture, mining, manufacturing, transportation, finance and all of the principal branches of trade and commerce have been represented.

Intelligent Effort.

At the many conference tables sat business men of ability and experience, approaching with no illusions the difficulties of the task. Economists and statisticians of high repute were summoned from all quarters—Professors Seligman and Haig, of Columbia; Adams and Fairchild, of Yale; Kemmerer, of Princeton; Col. Robert H. Montgomery, George E. Holmes, A. E. Holcomb, Otto H. Kahn and many others, with constant resort to authorities of the Treasury Department and elsewhere.

Many enticing panaceas were viewed and reviewed. Simplicity was sought. The mental suffering experienced by everyone called upon to file tax returns had its effect. Anything that smacked of simplification was seized upon and submitted to hopeful scrutiny. Some few survived, but it quickly became apparent that simplicity could be had only at the sacrifice of equity and practicability. Debate merely resulted in wider differences of opinion, and the various organizations gradually drew apart.

The reports have been rendered. They

are discouraging. They reflect a most comprehensive study of the subject, but the conclusions are drawn along widely divergent tangents. Were they based upon common employment of fundamental principles of taxation the situation would be more hopeful. But they are not.

"Ability to pay" is more than a threadbare theory. It is a practical premise upon which the greatest dependence for taxation running into billions of dollars should be founded. It is a keystone principle which has emerged, after centuries of experience, from a gradually crystallized preference of economists, taxpayers and lawmakers. Departure from accepted fundamentals breeds delay, confusion and worse.

Congress convenes December 6, 1920. It adjourns March 4, 1921. Revenue bills must originate in the House of Representatives, but it is hopefully expected that both the Ways and Means Committee of the House and the Finance Committee of the Senate will begin consideration of new legislation simultaneously.

The Ways and Means Committee is composed of twenty-five Representatives. It is charged with the consideration of all proposed legislation purporting to raise revenue or dealing with the national bonded debt. At the forthcoming session it has before it various tariff measures, the gold bill and other important legislation. It will be busy. Two weeks of preliminaries, the long holidays and but two short months of the next session remain.

Congressional Consideration.

Public hearings on the proposed Revenue Act of 1918 began June 7, 1918. The chairman announced that "the committee is anxious that any person who has any suggestions as to methods of taxation or as to new subjects of taxation, or anyone who has any suggestions as to repeal or amendment or modification of the provisions of the present law, will come before us and state their views. I hope the press will give this invitation of the committee the widest publicity." The press did. The bill was enacted in 1919, more than eight months later. It was retroactive to January 1, 1918.

A similar invitation will be issued at the next session. Individual interests, as well as trade and special organizations, will be entitled to appear. Much time again will be consumed, much of it wastefully. The opportunities for a single comprehensive presentation on behalf of the entire industry of the nation, which is not impracticable, will prove all too short as it is, and any attempt to introduce a multitude of widely differing propositions will probably prove disastrous to the effort.

A unified presentation of the recommendations of business organizations which have been engaged in preparation for tax reform will be a real accomplishment. Congress should, and probably will, welcome the assistance. But conflicting efforts are never persuasive. If the business interests do not get together and compromise, Congress will compromise for them. The result may be unpleasant. If the majority of interests cannot agree it is evident that the majority does not know what it wants. Nothing is more confusing than disintegration of ideas.

The situation is not yet hopeless. A conference attended by delegates from all organizations considering the revenue problems can at least attempt a compromise. There need be only a common acknowledgment of underlying principles and a mutual realization that the time is not now for billion-dollar experiments. Even the most definite proposals can go to Congress only as recommendations; if the fundamental premises are in accord there should be no difficulty in merging the various devices into one comprehensive program of alternatives, Congress to pick and choose at its pleasure. Congress will inevitably exercise that privilege in any event.

Opposing Movements.

Many and varied as are the proposals to remedy the tax situation, they may be placed in two general and distinctly opposite groups.

One movement is that which may be termed the conservative, depending largely upon increase of the normal income tax rates and the levying of additional excise taxes upon commodities of wide distribution. It involves no new tenets, but clings to seasoned and proved principles.

The other group may be referred to as radical. It confines itself principally to the institution of a general sales tax, or flat rate tax on all turnovers of merchandise and services, as the only levy on "business." It is presented as the pot of gold at the end of the rainbow which begins with a quest for revenue "without interference with the various essential operations of business and, more important sociologically and politically, with the lightest burden on the consumer." It is a scheme, plausible at first glance but found in the complete analysis to rest upon naught but a chimerical attempt at pseudo convenience. It has no foundation either in academic or the most practically tested principles. It is an uncouth thing, experimental at best and fraught with many economic inconsistencies. The general sales tax is essentially a scattered tax, subjecting all commodities, essentials and non-essentials of life, to a common levy, thereby releasing luxuries and semi-luxuries from the existing special taxes. The particular advocacy of the general sales tax on the part of the jewelers, candy manufacturers and other special interests is readily understood.

All of the tax organizations are stoutly maintaining that they want to get together, compromise their differences and capitalize to the fullest extent the advantages of solidarity. So far it has been largely a matter of good intentions.

"If we all split up," admits one committee which opposes the general sales tax, "we merely expend our efforts upon each other and accomplish nothing but the demonstration of our own impotence and confusion. Business disagreement upon this important subject will merely intensify and multiply the injurious factors of a bad situation."

"Agreed," responds a representative of another association, which advocates the general sales tax. "We are more than willing to meet any and all tax groups with a view of trying to get together on some fundamental. But I do not believe we will ever get together with any group on the theory that there shall be special taxes for some industries and practically none for others."

Fallacies of the Sales Tax.

We appreciate the position of the proponents of the general sales tax. Any plank removed from their platform upsets the whole structure. True, they have made some "concessions." They are astute. Apart from advocating exemption from the income tax of \$2,500 for single persons and \$5,000 for

married persons, instead of \$1,000 and \$2,000 as at present, to eliminate the great number of small dealers, "especially the farmers," the "radicals" further concede that "the farmer, for instance, beside his exemption and other dependents, would have exemption for minimum turnover, which will in the majority of cases practically eliminate him from the tax lists."

We confess to a slight weariness at the sop continually being handed to the poor voting farmer. Why to the farmer especially, except as a practical political expedient? He has undeniably suffered many economic disadvantages during abnormal periods, but under the income tax schedule he is eliminated from direct federal taxation if his business is unprofitable and submitted to no more burdensome imposts than anyone else if it is profitable. Further, we do not believe that the average farmer asks for more than a square deal; the agricultural interests are opposed to the general sales tax simply because it imposes upon the necessities of life at the same rate as it does upon luxuries. They believe with the "radicals" that "the problem must not be approached from the point of view of any group of taxpayers; it is a matter for all the people and no class should be favored"; and they are suspicious of the "concessions."

Dollars don't grow on trees, to be plucked in increasing volume as the fiscal necessities of the government advance. Five billion dollars is a vast sum to be raised each year by taxation. The "radicals" ask that it be provided by "equitable and wide distribution," that is, by removing the special tax upon the pearl necklace and substituting a lower tax at the same rate as a levy upon the baby's shoes. The tax upon the pearls is called "invidious" and "discriminatory."

Five billion dollars must come from somewhere, and we must dispute the assertion that the sales tax will merely become absorbed in the customary business costs and be felt by no one. It is a delightful idea, one of the species usually attributed to "theorizing college professors" rather than to practical business men. Five billion dollar taxation has teeth, and it bites, and somebody always gets hurt. All of the teeth can never be extracted, particularly by such a dubious experiment as a scattered sales tax. A ton of confetti is still a ton.

Britain's Experience.

It is pertinent to refer to the comprehensive report upon the British income tax recently issued by the Royal Commission, supported by seven volumes of evidence. The chief conclusion reached is that "the income

tax has proved its worth as a part of the fiscal system in all times of stress, especially in the last five years, and it is by its results that it must be judged. We recognize, and we think the public will recognize, that an old established system that has entered into the thoughts and business of the people for several generations should be judged, not by a theoretical standard of possible excellence, but by the results it has achieved. * * * We have made many recommendations for the alteration of the tax, and we hope for its improvement, but we have made no attempt to overturn the whole framework of the tax, setting up something else bearing the same name."

The report of the Royal Commission gives England only one alternative to a high excess profits tax as a permanent part of the system, that of extension of the income tax.

The program of our "conservatives" will ultimately, we believe, rest largely upon the recent findings of the most representative group of industrial interests, the Allied Tax Committee appointed by the First National Industrial Tax Conference. It proposes repeal of the excess profits tax, reduction of the surtax on saved and reinvested income, abolition of the present \$2,000 exemption to corporations and various modifications of the operation of the corporate income tax. To replace the resulting loss of revenue it is recommended that the corporate income tax be increased, stamp taxes quadrupled, increase to 10 per cent of tax on all articles now taxed at lower rates, heavier levies upon tobacco and tobacco products, new excises upon automobiles and special flat taxes upon sugar, coffee, tea, gasoline and other commodities of wide distribution. Many other organizations have depended upon similar principles of taxation, and while the remedies they propose are varied, it is expected that eventually all will be grouped to enable the "conservatives" to present a fairly uniform program.

Compromises.

We submit that the "conservatives" have already compromised with the "radicals," a fact that the latter seem to ignore. Material concessions are indicated by the fact that the Allied Tax Committee excluded from its recommendations any reference to the great revenue possibilities of the prosperous moving picture industry, the tremendous growth in candy consumption, the highly profitable jewelry trade and the moral and practical susceptibility of all absolute luxuries to heavy imposts. Canada has not hesitated to run its luxury taxes to as high as 50 per

cent, and the new law of July 1 last seems to be working out very nicely. We suggest that the "radicals" might do worse than organize a real "get-together" movement. The "conservatives" might take it into their heads yet to pattern after the Canadian scheme. Congress has been making sheep's eyes for a long time at the jewelry trade. Vanity must be satisfied, and contrary to the usual tendency of excessive taxation, heavy levies upon costly adornments might make them even more coveted and result in sustained volume of business. A sumptuary tax would be very popular among the voting proletariat, and the "radicals," as we have shown, are evincing tender consideration for the "poor people." The Canadian scheme is not yet out of the minds of many, including Congressmen.

A statement issued by the French government, dealing with the tax upon gold contained in manufactured articles, refers to the fact that "this tax, striking as it does luxury goods, or unessential articles, enters into the category of a sumptuary tax, the levying of which is admitted by all economists as a legitimate procedure."

The preponderance of authoritative opinion is leaning away from the general sales tax. Time is required to analyze it thoroughly and find its weaknesses, but the searching test of probable practical effect eventually leads to reluctant but decisive opposition. Its advocacy has become almost a blind obsession with some, but a lost cause soon loses its followers.

The prominent proponents of the sales tax are enterprising business men of pronounced ability. Their co-operation in solving the serious problem of tax law revision is desirable. They can be of valuable service, and in the end help themselves, but their attitude must be more than a mere profession of willingness to compromise. A true compromise means the shattering of an ideal, it is true, but better the ascent into correct and tested principles of taxation than a fall into the extremes of sumptuary taxation.

Congress may or may not act at the next short session, probably not. There is reason to believe that the incoming president, regardless of election results, will call a special session immediately following inauguration. Delay thereafter means seriously retroactive legislation, of which we have had a surfeit. The celerity with which the common object is attained depends largely upon the nimbleness with which the public determines what it wants.

Note.—This is the third of a series of articles dealing with federal tax revision.

THE WESTERN MINING STATES

By THOMAS TONGE.

The general public, possibly the average Congressman, does not realize the importance to the national welfare of the metalliferous mining industry of the states lying north, west and south of Denver, including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Texas, Utah, Washington and Wyoming.

Of the total production of the United States in 1918 (the last year for which official figures have so far been issued) of gold, silver, copper, lead and zinc, the above mentioned western mining states, notwithstanding adverse local conditions, produced approximately 80 per cent of the gold, nearly 100 per cent of the silver and large percentages of the copper, lead and zinc.

The U. S. Bureau of the Mint and the U. S. Geological Survey have just issued a joint statement, showing that during 1919, as compared with 1918, the United States showed a reduction in gold output of \$8,313,300 and in silver output of 11,127,694 ounces.

This serious decrease in the American production of the money metals is by no means merely a mine operators' question, but adversely affects national and international finance, trade and commerce.

The official figures of total production for individual states for 1919 have not yet been issued, but the preliminary official estimates indicate very unsatisfactory conditions and decreased production of the five leading metals—gold, silver, copper, lead and zinc—as to which several of the leading mining states may be mentioned as follows:

Arizona for 1919, as compared with 1918, showed a decrease of \$93,427,880, including a \$1,204,000 decrease in gold. In spite of the increase in the price of silver, the value of the output decreased \$1,206,000. The output of copper decreased nearly 32 per cent. There were also marked decreases in the output of lead and zinc.

California for 1919, as compared with 1918, showed a decreased output of the five metals of over \$8,000,000, or 26 per cent. Owing to special circumstances, there was a slight increase in the gold output, 1918 having been an unusually unfavorable year. In 1919 the silver output was 306,642 ounces less in quantity and \$193,325 less in value than in 1918. There was a decrease in copper production, in quantity, of 25,000,000 pounds and in value of over \$7,000,000. The lead production decreased over 8,000,000 pounds and in value nearly \$700,000. Zinc showed a decrease in quantity of 4,500,000 pounds and in value of \$437,000.

Idaho in 1919 showed a decrease of \$17,146,000, as compared with 1918. This included a decline of nearly 38 per cent in the silver production, a decline of about 50 per cent in the copper output, a decline of about 50 per cent in the lead output and of more than 50 per cent in the zinc output.

Montana in 1919 showed a decrease of \$55,000,000, as compared with 1918. All the

metals but lead showed a decided decrease; gold a decrease of nearly 27 per cent; silver a decline of more than 3,000,000 ounces; copper a decrease of 142,000,000 pounds in quantity and \$45,000,000 in value. The production of lead increased about 5,000,000 pounds, but a decrease in value by reason of lower prices. Zinc decreased 33,000,000 pounds in quantity and about \$6,000,000 in value.

Nevada for 1919 showed a decrease of more than 50 per cent on the five metals, but in point of value the largest decrease was that in copper, which amounted to more than \$19,000,000. Gold showed a decrease of about 29 per cent. Silver decreased in quantity about 3,000,000 ounces and in value over \$2,000,000. Copper showed a decrease in quantity of 65,000,000 pounds and in value of \$19,000,000. Lead and zinc showed declines of about 50 per cent.

Utah for 1919 showed a decrease of nearly \$41,000,000 from the value of the metal output of 1918. Gold showed a decrease of nearly 30 per cent; silver a decrease of about 2,000,000 ounces; copper a decrease of 104,000,000 pounds; lead a decrease of 46,000,000 pounds; zinc a decrease of 77 per cent.

Causes of Low Production.

The reasons given from the various states for the decreased production are—"after war" conditions, including shortage of labor, inefficiency of some of the labor obtainable, high cost of labor, high cost of all mining supplies, increased freight, smelter and power charges, labor strikes at some places and general increased cost of production, in many cases wiping out all margin of profit and closing down the mines. Naturally some mine operators have curtailed, if not entirely stopped, development work at present high cost of production and low price of metals. Others have curtailed production. War profits taxes have also discouraged production. New capital declines to consider mining enterprises under such conditions.

It is self evident from the above that the twenty-third annual convention of the American Mining Congress, for its five-day sessions in Denver, commencing November 15, will have for consideration many very important matters affecting the future of the mining industry, and that there should be the maximum attendance of mining men, particularly from the western mining states.

In addition to gold, silver, copper, lead and zinc, many other metals and minerals exist and are more or less mined in the above mentioned western states, of which brief mention may be made, as follows:

Manganese and manganiferous ores in Arizona, California, Colorado, Nevada, New Mexico and Utah.

Quicksilver in Arizona, California, Nevada and Texas.

Molybdenum in Arizona, California, Colorado, New Mexico and Utah.

Tungsten in Arizona, California, Colorado, Idaho, Nevada, New Mexico, South Dakota and Utah.

Radium, uranium and vanadium in Colorado and Utah.

In the non-metallic minerals, the above mentioned states are rich.

In 1918 Colorado, Montana, New Mexico, Utah, Washington and Wyoming produced over 40,000,000 tons of coal. Coal was also produced in California, Idaho, Oregon, South Dakota and Texas.

Petroleum is extensively produced in California, Colorado, Montana, New Mexico, Texas and Wyoming.

Oil shales of vast extent, as yet undeveloped, exist in Colorado, Utah and Wyoming, also in Nevada.

Asbestos is found in Arizona, California, Idaho and Wyoming.

Phosphate rock in Idaho, Montana, Utah and Wyoming.

Graphite in California, Colorado, Montana, Nevada, Texas and Washington.

Potash in California, Colorado, Nevada, New Mexico, Oregon, Utah and Wyoming.

Asphalt, etc., in California, Colorado and Utah.

Portland cement materials in California, Colorado, Montana, Texas and Utah.

Sulphur in California, Colorado, Idaho, Nevada, New Mexico, Texas, Utah, Washington and Wyoming.

The American Mining Congress in its efforts on behalf of the mining industry merits the active and loyal support of all its members throughout the country and helpful co-operation by national and state legislatures.

GAS ROYALTY REGULATIONS

Secretary of the Interior Payne has asked for an expression of opinion from those interested in the question, "What would be fair royalties and what would be the best method of applying royalties on gas and gasoline extracted from natural gas?" Under the amended regulations (Circular 676) concerning oil and gas permits and leases authorized by the act of February 25, the Secretary of the Interior has reserved the right to fix and determine royalties on the gas produced under each lease. Tentative decisions have already been reached and put into application, but the Secretary desires the opinion of interested parties before adopting any permanent policies.

THE AMERICAN GOLD PROBLEM

Analysis of American Bankers Association Gold Committee Report presented before the Forty-Sixth Annual Convention of The American Bankers Association Oct. 21, 1920, by Louis T. McFadden, Chairman of the Banking and Currency Committee of the House of Representatives.

Gold is our standard of value and the money of bank reserves. The entire body of outstanding indebtedness, public and private, including the Liberty Bonds recently issued, is payable in gold coin of the present weight and fineness. The nearly \$10,000,000,000 of loans which the United States Government has made in the last two and one-half years to foreign governments are payable in this gold coin. The \$3,500,000,000 adverse European trade balance created since January 1, 1919, has still to be funded. The outstanding indebtedness of nearly the entire world is contracted in gold. Outside of Asia, gold is still recognized as the unit of value and the basis of monetary systems, although in many countries the stress of war conditions and unbalanced trade have compelled a suspension of gold payments. All of these countries regard such suspension as temporary and desire to get back on the gold basis and establish their currencies in fixed relations to gold at the earliest possible date.

For the United States to adopt remedial measures to maintain its normal gold production would be construed abroad not as an element of weakness, but rather as one of strength. A stimulus to domestic gold production would be regarded not only as evidence of our desire to retain the present gold standard throughout the world, but as an aid to European countries to more rapidly recover their pre-war gold reserve positions. To allow the industrial consumers of gold in this country to withdraw gold from the monetary reserves of foreign countries would have a depressing effect upon the exchanges, and would delay the time when foreign exchanges would be restored to par. The diversion of gold from the monetary reserves of the nations of the world into the manufacture of articles of luxury particularly at a time when the world's gold production has so greatly declined will still further delay the financial recovery of all nations from the pressure of war finance.

The report of the Gold Committee states, "If at any time the bank situation calls for more gold in the United States, we can purchase it in the international gold markets far more cheaply than we can obtain it by the doubtful method of an expensive bonus on gold produced in the United States." Is it not evident that if the United States was forced to withdraw gold from the already depleted reserves of foreign countries, their purchasing power in our markets would be lessened? A still further decline in the exchanges of such countries from which the gold had been withdrawn would result. The loss of European purchasing power in the markets of the United States upon which our domestic industries depend for prosperity

would occasion a loss far greater than the premium provided for in the bill, which is borne not by the public at large, but directly by the consumers of gold articles, luxuries. Since the consumers of gold in the industrial arts and trades are receiving their metal at the prewar price, no reason can be assigned why they should not pay an increased cost alike with all other industries which have been forced to pay the increased cost for their raw materials.

Industrial Consumers Now Subsidized.

The general increase in all commodities was 112 per cent in 1919 as compared with 1914, and had gold not been fixed in price so that it could have responded to the law

of supply and demand, the price of gold would have at least risen to the general average of all other commodities. Industrial consumers of gold therefore profited by a subsidy of \$65,500,000, or 112 per cent of the price paid, \$58,500,000, for the newly produced gold which they consumed during 1919. The payment of the excise proposed upon the sale of the manufactured article containing gold will enable the industrial consumer of gold to pay more nearly the cost of production for his raw material, although he will still be subsidized in being able to obtain his metal at a price equivalent to less than half of the general average increase of all other commodities in the United States.

Heavy French Tax.

In addition to paying the exchange discount, which in the case of the French industrial consumer of gold in 1919 amounted to over 100 per cent more in francs than the price paid before the war, the French government has imposed a sumptuary tax for the use of gold in the fabrication of articles (other than money) of 60 francs per hectogram (\$3.60 per fine ounce, par exchange) by law of June 25, 1920. The French government has imposed a tax of 37 francs, 50 centimes per hectogram of fine gold contained in articles of manufacture since 1873, and justifies this tax in a formal document transmitted by the United States Bureau of Foreign and Domestic Commerce, as follows: "Moreover this tax, striking as it does luxury goods, or unessential articles, enters into the category of a sumptuary tax, the levying of which is admitted by all economists as a legitimate procedure." This fact is referred to for the reason that it would seem that foreign governments are exercising greater precautions to protect their monetary gold reserves than is the United States, a creditor nation from which Europe expects and should receive every assistance in restoring its monetary reserves to normal as a means of protecting the gold standard throughout the world.

Premium Not a Subsidy.

As compared to 1914, the purchasing power of the dollar in terms of all commodities in 1919 was 47 cents. The gold producers' ounce in 1914 had a purchasing power

of \$20.67, whereas during 1919 the same ounce could purchase in terms of all commodities but \$9.70. Since the price of gold has been arbitrarily fixed by statute at \$20.67 an ounce, the gold producer is in the same position as a person who received the same income in 1919 as in 1914 and finds that a \$2,000 income has shrunk in purchasing power to \$970. This is the principal reason for the decline in the gold production from \$101,000,000 in 1915 to less than \$50,000,000 this year. Were it not for the fact that the government has arbitrarily fixed the price of gold, in which event the law of supply and demand does not operate, it would not be necessary to consider compensating the gold producer for a part of the decline in the purchasing power of the dollar which has taken place the last four years. The premium to be paid to the gold producer, based upon the new ounce of production, cannot be construed as a bonus or subsidy for the above reason. Most of the wage increases that have been allowed by various industries and the increases in transportation rates, car fares, and for municipal gas and electric services throughout the country have been based upon the increase in commodity prices or the decline in the purchasing power of the dollar. The products of all other industries except that of the gold mining industry have been automatically increased in price during this period, so that the cost of production is fully covered, together with a profit, by which alone future production of such commodities may be assured. If we are to maintain the normal gold production of the United States it will be necessary to take this into consideration. Gold is the only product, because it is fixed in price, that has not been able to respond to the law of supply and demand, and special provision must be made if we are to keep the gold production of the country from vanishing altogether.

Free Gold Market Maintained.

The Gold Committee refers to the excise tax proposed as interfering with the free flow of gold into the arts, thus violating one of the basic elements of the gold standard. In another place the committee refers to the excise as a differential tax on a raw material. In this most important provision of the bill the committee has overlooked the fact that the excise is to be paid only upon the sale of the manufactured article, and not upon the bullion, which the manufacturers will receive from the mint as they always have at the fixed price of \$20.67 per ounce. In this way a free gold market is maintained, and there is no interference with the free flow of gold either into the arts or from the arts into the mint. The fact that the rate

of the excise is fixed at 50 cents a penny-weight for the fine gold contained cannot be construed as a differential tax on the raw material, as it is simply a means by which the tax may be equitably measured and levied upon the consumers of articles containing gold, in the same manner in which the French government has imposed its sumptuary tax.

Cause for High Prices.

The committee makes a statement with reference to the effect of gold production as follows: "Increased gold production in a period of low prices and low costs makes it easier for prices to rise again, while diminished gold in periods of high prices and high costs tends to reduce prices and costs again." This is not borne out by the facts. The gold production of the world has declined from \$169,000,000 in 1915 to \$350,000,000 in 1919, a reduction of 25 per cent in the last four years, and yet prices throughout the world have risen enormously. Commodity prices in this country continued to increase between May 1, 1919, and May 1, 1920, notwithstanding the loss by excess exportation from the United States of \$445,000,000 in gold, or 14½ per cent of the highest gold stock ever possessed by this country. Furthermore, during the period when the gold reserves of foreign nations were being greatly reduced by what they sent to this country their prices advanced even more rapidly than those in this country. This indicates that the reverse of the committee's observation is true, that the depletion of gold reserve at a time when currency is rapidly expanding is mainly accountable for accentuating the increase in prices. The degree of inflation is measured by the ratio of the gold reserve to the volume of the circulating media, and it must be apparent that an increase in the gold reserve without an increase in the circulating media would reduce the degree of inflation. It must also be evident that the effect on prices of the supply of gold in active circulation is relatively small compared with that of the credit currency based on gold which is not "free," but locked up by the treasury and reserve banks and used indirectly as the basis for a larger volume of currency. If this gold were really free and circulating, it could not be so used. The true remedy for inflation is to return the gold to circulation, from which it has been so greatly withdrawn as the basis for inflation. Of the total gold stock of the United States, which amounted on October 1, 1920, to \$2,704,672,504, \$2,003,072,000 was held as the gold reserve of the Federal Reserve System, and thereby was tied up by the Federal Reserve Act, 35 per cent against

net deposit liabilities, and 40 per cent against the note liabilities of the federal reserve banks. After satisfying the reserve requirements of the net deposits there was on October 15, 1920, a gold cover of 46.6 cents for every federal reserve dollar note in circulation, of which there were \$3,353,271,000. The gold cover on October 15, 1920, of the federal reserve note was but 6.6 cents per dollar above the amount required by law, which is closer than conservative financiers would like to see it.

Deflation Not a Remedy.

While the business affairs of the country are gradually adjusting themselves to normal, it will, in the minds of most bankers and economists, be many years before the dollar will regain its purchasing power of 1914; in fact, that time may never come. Consequently, temporary means must be provided to sustain the gold mining industry over this period of gradual readjustment. While it is true that there has been an attempt made to contract the credit structure of the country, I would call your attention to the continually increasing volume of currency in circulation and the decline in the gold reserve ratio of the federal reserve system. While the gold ratio may improve with a contraction of the credit and currency structure of the country, we shall, on account of our adverse trade balance, be forced to lose a considerable amount of the gold which might be thereby released.

It is being demonstrated that a vast amount of inflation cannot be reduced without causing hardship and loss of employment, and therefore is it not a proper correction to make stronger the reserves and circulating media by increasing the production and conserving the use to which the gold is put, thereby increasing the production of commodities which are so greatly needed throughout the country today. By this means only can the currency and credit structure of the country be deflated, while at the same time increasing the physical production of commodities so as to lower the cost of living, and with the idea always in view that it is the use to which money and credit are put that is the all-important thing. While the committee has urged that deflation is the only remedy for the economic pressure to which the gold mining industry is subjected, it is evident that any process of deflation must be so gradual that it will not restore the purchasing power of the dollar in time to save the industry from complete destruction. Particularly in view of the fact that Congress has fixed the price of gold, it seems that Congress has now the power to stimulate the production of gold by

creating the machinery whereby the consumer of gold in the industrial arts may pay more nearly the cost of production for his raw material, thereby enabling the producer of new gold to increase his output to meet the industrial requirements of the arts and trades, and protect the monetary gold reserve from further industrial depletion. The government should legislate to stimulate the domestic gold supply and thus relieve the strain and send into the currents of industry the invigoration of this new gold. The process of deflation in order to serve as a solution to the gold problem would have to take place so rapidly that it would paralyze the entire industry of the country. It cannot be that the committee would want to see deflation take place so rapidly. The attendant ills of a too rapid deflation cannot be too strongly emphasized. Labor difficulties will become more rather than less numerous. The loss of employment alone would create a burden upon the entire public in a lessened production, which could not be borne without suffering and the impairment of health. The loss in the production of new gold to the gold reserve will still further accentuate the volume of deflation. It will be necessary, also, to analyze our exports of gold more carefully and to increase the production of new gold at least to satisfy the requirements of the manufactures and the arts. Our gold should henceforth go to European countries whose reserves are now depleted and not to Japan to swell its already large reserves. Gold should not be sent in such large quantities as last year to India and China, where it is hoarded and removed from international circulation. To prevent this leak of gold we must purchase no more goods in Oriental countries in value than they are purchasing from us, thereby leveling the trade balance.

Small Amounts of Gold.

The committee has stated that a loss of \$22,000,000 occasioned by the increased industrial consumption of gold over the production of new gold is a very small item to the monetary gold stock of the nation. In the opinion of the committee, no doubt, the \$80,000,000 in gold that was withdrawn from the United States mint and coinage and used for industrial purposes during 1919, was also an excessively small amount, notwithstanding that the metal was entirely diverted from monetary use. The gold dollar in the vaults of the federal reserve banks may serve as the basis of deposit liabilities of \$2.50, and these deposits to the credit of a member bank may in turn serve to enable credit extension by that bank of anywhere from $7\frac{1}{2}$ to 14 times that amount, or say \$19 to \$35.

With reserves close to the legal minimum, therefore, every million dollars of gold lost to the monetary gold reserve means forced credit contraction of at least 20 millions. The \$80,000,000 withdrawn for industrial consumption during 1919 would therefore be equivalent at the least estimate of a contraction in the credit structure of the country of \$1,600,000,000. It is interesting to note the comments in the reviews of several of our banks recently with reference to the marked improvement in the money market resulting from the small amounts of gold which have come in from Europe. The National City Bank statement of October makes the following reference: "One explanation of the easier tone in the money market is to be found in a moderate increase of reserves, due to importations of gold from Paris and London. The lawful reserves of the reserve banks on September 3 aggregated \$2,117,957,000, and on September 24 they aggregated \$2,151,594,000, an increase of some \$34,000,000." In the statement of the Mechanics and Metals National Bank of October the following statement is made: "The gold coming from France is helping to increase the base upon which that credit rests." In the ten days ending September 30 approximately \$11,000,000 of gold was imported from France, which indicates what a small amount imported into the country has so great an influence on the money market. Can it be that the normal production of gold in the United States, which in 1915 was \$100,000,000, would not exert a like influence on the money market, or is there some magic difference between that gold which is imported from Europe and that which may be produced in the United States? These small importations of gold ease our money market at the expense of a depreciation in French and British exchange, which reduces their purchasing power in our market.

Fisher Would Vary Grains in Dollar.

The reference made by the committee to the use of the index number in the bill as a means for adjusting the excise and premium as being similar in its application to the plan of Professor Irving Fisher for stabilizing the dollar, shows a marked lack of knowledge concerning his proposal. The index number as used by Professor Fisher would lessen or increase the number of grains in the standard dollar from time to time, a fundamental change in the gold standard, while the index number as employed in the bill in no way changes the number of grains in the standard dollar and is used merely as a basis of comparison in order to equitably adjust the cost and price equation between the producer of new gold

and the consumer of industrial gold. As used in the bill, the index number has also been used for many years as a basis for regulating wages and for adjusting costs.

Ample Protection Against Fraud.

The committee's objection to the bill based upon the possibility of fraud arising from the difficulty of distinguishing between virgin and old gold is more serious in theory than it will prove in practice. With the co-operation of the Bureau of the Mint, the Bureau of Mines, and the Geological Survey, all of which organizations have field representatives in the gold mining districts, any successful fraud on the government could only be on a very small and negligible scale. The affidavit of production specified in the bill and the penalty provided insures the government every protection against fraud.

British Gold Supremacy.

In 1915 the United States produced 21.5 per cent of the total world's gold output, and the British Empire 63.7 per cent. In 1919 the United States produced but 16.6 per cent of the total world's gold output, while the British Empire produced about 70 per cent. Since July 24, 1919, the British Empire has been paying an exchange premium, as high as 50 per cent, to the gold producers of South Africa, where the bulk of the British gold is produced, while in the United States no assistance has been rendered the gold mining industry. The gold producers of all British possessions are receiving the benefit of an exchange premium. This year the contribution of the United States to the gold production of the world will probably be not more than 12 per cent, about half of that which it contributed in 1915, while the stimulating effect of the exchange premium will probably increase the quota which the British Empire will contribute to 75 per cent. Whereas in 1915 the British Empire produced three times as much gold as the United States, in 1920 Britain will have produced six times as much. Are we to continue to ignore the problem of gold production in the United States, thus permitting the British Empire to gain an unquestioned supremacy?

Retention of Gold Standard.

It is fundamental to the re-establishment of the gold standard as the basis of world intercourse that gold mining should go on at something like its normal rate. This requires that prospecting, exploration and

development shall be carried on continually and that the industry shall invite investment upon terms fairly competitive with other industries. Gold mining under modern conditions is not an industry into which or from which capital can readily be shifted. It takes a long time to find and develop a good gold mine. It is not a casual industry, which can be suspended and resumed without serious interference with the volume of production. A considerable portion of the output always is obtained on a small margin of profit, and if such operations are suspended and the mines fill with water, they are likely to be abandoned permanently. The gold mining industry, which has so greatly shut down in the last four years, will be completely shut down unless constructive aid is provided without delay, in which event it will take years to develop a normal output of gold at a very much greater expense. To allow the gold mines of the United States to cave in and fill with water entails a waste of developed gold resources, which in a most critical hour of financial need will cause want.

Mr. George E. Roberts, who served for fourteen years as director of the mint, in a statement of December 20, 1919, made the following comment: "I fear that a low production of gold and an unfavorable outlook for the industry at a time when credit was being curtailed and prices lowered would have the effect of reviving all the monetary heresies of the past. We want to stand by the gold standard; it is the sheet anchor of enduring prosperity; but the gold standard will require a healthy gold mining industry to sustain it."

Far from being a danger to the gold standard the enactment of this bill will protect the monetary gold reserve and will greatly assist in retaining the gold standard during the present period of credit restriction accompanied by declining prices. The continued depletion of the gold stock by excess exportation and industrial use will force a rapidity in deflation which will seriously impair the public confidence in the nation's finance and currency unless a normal gold output is maintained.

That this situation may be remedied without delay the congressional consideration of this bill should be expedited. The British gold producer has been aided by the exchange premium. This bill offers a domestic solution for our own gold problem. I trust that this convention of bankers will lend the impetus of their endorsement to this bill which will protect the position of the United States as a creditor nation.

WAR MINERALS DEVELOPMENTS—TARIFF CONSIDERATIONS.

	Annual production in U. S.				Imports from foreign countries.			Prevailing prices.			Importance of domestic deposits.
	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	
Antimony: Fire and needle. Metal. S. tons. 2,603	Nil. 2,617 18,570	190 2,617 18,570	190 2,617 18,570	1,810 6,555 8,395	4,196 7,159 8,130	1,271 7,159 8,130	1st 5m., 07-07-1c Last 5m., 12c Av \$10.50 100 lbs	\$20.69 100 lbs \$11.00 \$11.25 \$32.50-Cr40	\$6.50-\$6.75 100 lbs \$11.00 \$11.25 \$32.50-\$12.50.	Large resources Ont. lead Sulfate deposits small and relatively low grade Large deposits in South & Midwest Deposits in West of considerable extent but largely undeveloped.	
Barite: S. tons. 591	52,747 591	155,368 82,430	190,000 3,900	100,112 80,736	61,404	61,404	Dom. Flake. 61c-8c lb.	Dom. Flake. 10c-17c lb.	Dom. Flake. 7c-9c lb.	Deposits of large extent, but low grade Cinnabar, Nevada and Ala.	
Chromite: L. tons. 1,725	6,500	6,500	4,000	3,717	3,717	3,717	Ceylon lump 81c-103c lb.	Ceylon lump 151c-201c \$35.00	Imp. N. Y. \$90-\$35	Average, 10c for No. 1 flake. Large, medium and low grade deposits but located far from market in Ala., Ark., and Mont. High grade ferro-manganese problem (costs about \$100 per ton) (approximate) at mines.	
Graphite—S. tons: Amorphous Crystalline Total Manganese—L. tons: Fire & 35% 10-35% 6,399	76,625 231,605 32,883 1,641,200 2,292	263,861 231,605 32,883 1,641,200 2,292	81,246 231,605 32,883 1,641,200 2,292	2,870 135,170 8,198 360,888 104,848	27 15,852 6,719 723,713 62	27 15,852 6,719 723,713 62	\$24.75 \$33.58 N. Y. N. Y. \$82	\$71.00 \$249 \$19.10 N. Y. \$123.47	\$80 \$100-\$175 \$30-\$35, crude; \$50-\$60, calc. N. Y. \$72	Deposits fully developed. Costs \$70, increasing. Tenor of ore decreasing. Medium grades plentiful High grades scarce. Costs highly variable.	
Spiegelheisen—S. tons Ferro-Mang Magnesite: S. tons 11,293	76,625 231,605 32,883 1,641,200 2,292	263,861 231,605 32,883 1,641,200 2,292	81,246 231,605 32,883 1,641,200 2,292	2,870 135,170 8,198 360,888 104,848	27 15,852 6,719 723,713 62	27 15,852 6,719 723,713 62	\$24.75 \$33.58 N. Y. N. Y. \$82	\$71.00 \$249 \$19.10 N. Y. \$123.47	\$80 \$100-\$175 \$30-\$35, crude; \$50-\$60, calc. N. Y. \$72	World's largest developed deposit in Colo. Production steady.	
Mercury: No. 75 lbs. flask Mica: Sheet—lbs. S. tons. Scrap and ground S. tons. Molybdenum: Concentrates—lbs Pyrites: L. tons 336,662	16,548 556,933 3,730 1,297 336,662	32,883 1,641,200 2,292 861,637 161,491	21,348 1,641,200 2,292 861,637 161,491	8,198 360,888 104,848 178,222 1,026,617	6,719 723,713 62 106,743 388,973	6,719 723,713 62 106,743 388,973	\$48.35 N. Y. N. Y. Unit, 91c Unit, 25c-33c	\$123.47 N. Y. N. Y. Unit, 12c-16c Unit, 12c-16c	Deposits large, but those near market lack copper to cheapen cost. Costs \$3.50-\$4 ton. Deposits very large; costs \$9.50 ton. Deposits extensive, but lean; reserves uncertain; costs \$30 ton K40 cont. Deposits small but fairly extensive. Surface ore has been mined. Costs \$20 unit. Deposits large and fully developed. Smelting costs higher than abroad.		
Sulfur: L. tons. Polish: S. tons. 990	417,690 Nil.	1,353,525 51,803	1,210,000 30,899	26,135 297,089	482 7,957	482 7,957	\$22 \$55.30 K40 cont.	\$35-\$15 \$630 Unit, K40 cont.	\$13 \$225 Unit, K40 cont.	Deposits large, but those near market lack copper to cheapen cost. Costs \$3.50-\$4 ton. Deposits very large; costs \$9.50 ton. Deposits extensive, but lean; reserves uncertain; costs \$30 ton K40 cont. Deposits small but fairly extensive. Surface ore has been mined. Costs \$20 unit. Deposits large and fully developed. Smelting costs higher than abroad.	
Tungsten conc.: S. tons—60% WO3 Lead: Metal Zinc: S. tons	512,794 343,418	5,068 539,905	124,433 492,405	11,825 31,962	9,787 70,902	9,787 70,902	Unit 20 lbs. WO3 \$7.32 100 lbs. N. Y. \$3.87 100 lbs. St. L. \$5.115	20 lbs. WO3 \$22.19 100 lbs. N. Y. \$7.47 100 lbs. St. L. \$8.01	20 lbs. WO3 \$150-\$60 100 lbs. N. Y. \$7-\$7.10 100 lbs. St. L. \$7.25	Deposits small but fairly extensive. Surface ore has been mined. Costs \$20 unit. Deposits large and fully developed. Smelting costs higher than abroad.	

*1910 figures from preliminary report of mineral production 1919, U. S. G. S.

†Quantity of cut and splittings not reported

‡Mining ore from Colorado not included

§Deposits in Colorado, Mexico and other countries. Zinc contents (a ton) 1911, 12,133; 1912,23,899; 1919, 17,009

{States proposed in bills now before Congress

{Splitting impurities are "acid resistant substances," 20% ad. val

{40% ad. val in 1918 gave, ore 2c, metal 21c, per lb. lead content.

{Not available.

Antimony	Deposits	Trade	Product	Rate	Product	Rate	Domestic
Ore and Nettle Cont. Ant. Lead	China deposits large and cheaply Mineral surface operation; labor 45¢ day Mexican Ant. lead ores may be a factor.	Creditor	Ore Metal Type metal; new Type metal; old	Free 15% 10% 15% Free	Based on tonnage Sulfur and sulphur §	10¢ lb. 10¢ lb.	Domestic antimonial lead satisfies large part of demand; largest uses are as alloy with lead.
Barytes: S. tons	German deposits large; costs \$7.30-\$12 ton.	Debtor	Grade earth Manufactured	15% 20%	Grade Manufactured	3¢ lb. 1¢ lb.	Rail freight, Mo.-N. Y., approximate, \$8 ton.
Chromite: L. tons	Rhodesia, extensive. New Caledonia, extensive. Canada, like U. S., warmer market	Creditor Debtor	Ore Ferro-Chrome	Free 15%	Ore, Cr ₂ O ₃ § Ferro-Chromes, Cr ₂ (O ₃) Sulph. Cr	60¢ unit 65¢ unit 11½¢ lb.	Rail freight, Calif.-Ph., approximate, \$16, \$20. Normal cheap water freight on im- ports.
Graphite—S. tons: Amorphous	Ceylon, high grade, lith lith concen- tration necessary, grade, but Ceylon preferred.	Creditor	Lump Manufactures of	Free 15%	Ore at 50% § Refined (lump) Grade over 90% Ferro-graphite Ferro-graphite Ferro-graphite	1¢ unit 3¢ lb. 2¢ lb. 5¢ lb. 5¢ lb.	Freight Ala.-N. Y. and N. Y., \$10 as against cheap water freights.
Crystalline		Creditor			Products, 20% plus		
Total							
Manganese—L. tons: Ore +35% 10-35% 5-10% S. tons Ferro-manganese	Costs. India high grade... \$11-\$16 Russia high grade... 12-12 Brazil high grade... 10-12 Ceylon high grade... 10-12 50% Indian ore of considerable advantage due to high grade ferro and low slag loss.	Creditor Debtor Creditor Creditor	Ore and oxide of iron Ferro-manganese	Free 15%	Ore, per unit ton § Alloy per unit ton	35¢ 75¢	Rail freights high from mines-con- sumers, whereas imports enter at Philadelphia with cheap water freight from mines.
Magnesium: S. tons	Austrian, high grade, \$12.50 Costs.	Debtor	Ore, crude or calcined	Free	Ore, per lb. § Calculated, per lb.	3¢ 1¢	Freight about \$20 from the mines to consumer.
Mercury: No. 75 flask	Spain, very rich ore Italy, are under 1% Australia, are under 1% 60 00 60 00	Debtor Debtor Debtor	Metal	10%	Metal or ore, per lb. Hg §	35¢	Foreign; see manganese.
Mica: Sheet—lbs 8¢ up and ground S. tons	India rich; low labor costs. Canada, high grade product.	Creditor Debtor	Value less than 15¢ Value more than 15¢ Crude mica Ground mica	4¢ lb. 20% 15%			Domestic deposits low grade, \$10 per flask possible in Spain.
Molybdenum—lbs	Canada Australia Norway	Debtor Debtor Debtor	Ore Ferro-molybdenum	Free 15%	Ore, per lb. mo. § Products, per lb. mo	40¢ 70¢	Domestic mica not favored for elec- trical use as is not as good in- sulator as Canadian.
Pyrites: L. tons	Spain deposits mined for copper Canada, copper content 3-4%	Debtor	Ore	Free	Ore, unit sulfur §	15¢	Larger deposit at Chino, Calif., has large reserves and low costs.
Sulfur: L. tons	Japan, reserves uncertain Mexico, reserves uncertain Italy, reserves uncertain	Creditor Creditor Debtor	Ore Sulfur-all forms	Free	Unit sulfur §	15¢	With uncertain competition ab- solutely sufficient to satisfy requirements. Copper content important factor in cost to foreign producers.
Polish: S. tons	Germany, large cheaply mined deposits rich in K ₂ O.	Debtor	Grade polish unless containing more 10% N ₂ O ₁₁	Free	Unit sulfur §	15¢	Under former German dominating price was fixed just below domestic costs. No advantage to con- sumer.
Tungsten conc. S. tons 60% WO ₃ .	China, large quantities rich sur- face ores available at \$1-\$6 per unit.	Creditor	Ore Ferro and metal	Free 15%	Licence 5 years unit K ₂ O §	10¢	When surface Chinese ore is exhausted costs may rise rapidly. Southwest low grade deposit promising.
Lead: Metal	Mexico, high silver content Canada, problematical Chile, problematical	Creditor Debtor Creditor	Ore on lead content Cast metal	3¢ lb. 25%	Ore per unit, WO ₃ § Ferro and compounds per lb., Strengthen. Steel Ore on lead content Metal	\$9 90¢ 35% 11¢ lb. 21¢ lb.	High silver content. Mexican ores is important factor.
Zinc: S. tons	Mexico, reserves uncertain Belgium, large deposits. Australia, large deposits.	Creditor Debtor Debtor	Ore Metal	10% 15% 15%	Ore § Ferro Metal Metal lbs.	Free 1¢ 1¢ 1¢	Domestic ore richer than German, but poor than Australian. Selling costs high. Mexican ore, P. cheaper in U. S., but least efficiency of Belgian plants is high.

EXPERT HOLDS AMERICA'S OIL SHORTAGE CAN BE OVERCOME

There is a solution to America's oil problem, but all of America will have to co-operate to make the solution effective.

This is the opinion of J. O. Lewis, petroleum technologist of the Bureau of Mines. Mr. Lewis is the author of numerous papers and reports and has delivered addresses on the subject of America's future petroleum supply which have attracted considerably more than ordinary interest.

Conservation, co-operation and intensified methods of recovery from abandoned and exhausted wells are looked upon by Mr. Lewis as the three most important factors of assurance, aside, of course, from the dis-

mist, which is a person who believes that everything will be all right even if nobody does anything to make it all right, and he is not a pessimist, which is a person who believes that everything will be all wrong even though everybody does everything possible to make things right. He is just a plain optimist, which he defines as "one who believes that there is a solution and that we shall be able to meet all of our reasonable requirements for as far into the future as can be foreseen, yet who recognizes that this desired end cannot be attained without provision and energetic effort."

In discussing the oil situation with THE MINING CONGRESS JOURNAL recently, Mr. Lewis said:

"The reserves in our oil fields, as estimated by the United States Geological Survey, which is undoubtedly our best authority, are generally conceded to be entirely inadequate and were these estimates but a half or a fourth of the real quantity, the situation would still be unsatisfactory. The discovery of new fields but hastens the rate of exhaustion and brings nearer the day when production starts on the long curve of decline which the older fields of Pennsylvania and Illinois have followed for many years past. Yet our oil fields contain much raw material upon which we have

not reckoned in the past. I refer to the oil left underground after the usual production methods now in vogue (upon which the Geological Survey have based their estimates), have brought the wells to so-called exhaustion.

"For a number of years the Bureau of Mines has studied both in the field and in



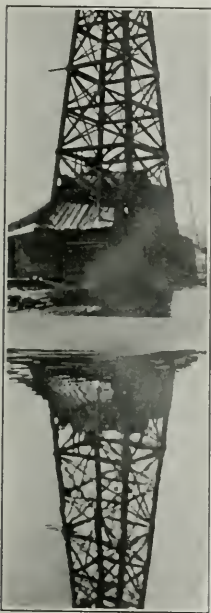
TWENTY THOUSAND GALLONS OF GASOLINE ARE WASTED DAILY BY THIS OKLAHOMA TANK.

The mist obscures the landscape for half a mile.

covery and utilization of new sources of supply.

Crude production cannot be relied upon to meet the increasing demand for petroleum products in America. But neither Mr. Lewis nor the Bureau of Mines, of which he is a part, faces this situation with pessimism. He is an optimist. He is not a super-opti-

the laboratory this most vital problem of the unrecovered oil. I believe that the evidence now before me is such that I dare claim that after we have brought our wells to the point of abandonment we shall be able to go back and get from them half and possibly as much again more oil than they had produced previously. This means that



Elimination of waste at this producing well and the shown pool below would help just that much in reducing the California gasoline shortage.

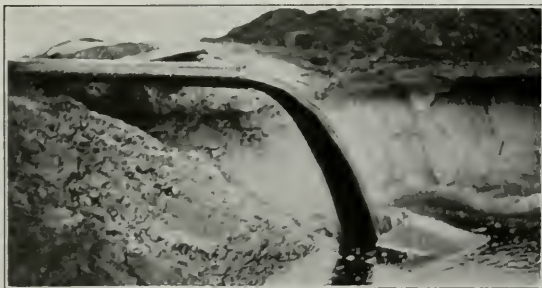
Pennsylvania, old properties have produced as much oil again by water flooding. On many old properties in the eastern fields the Smith-Dunn compressed air process has increased the recovery from 50 per cent to 100 per cent. At Bradford the water flooding has brought properties to their ultimate end and we know the final result. With the Smith-Dunn process the end is yet to be reached and we do not yet know what it may be. If it proves true, as seems the case, that only 10 to 20 per cent of our oil is now being recovered, there is no telling how much more oil may be brought to the surface by our American resourcefulness.

Cannot Rely on Imports.

"The possibilities of imports have been briefly mentioned. Undoubtedly the undeveloped areas of the world contain fields of vast potentialities, but how much of their production will become available to us? There are both international and commercial problems. Other nations have barely started in the use of petroleum and they, too, are developing appetites which must be appeased. In any event it is more desirable to be self-sustaining and it would hardly be satisfactory to be more dependent than we are today upon foreign countries for our needs. Would reliance upon foreign resources constitute any real solution of the problem? We can only guess what the resources are, we cannot be assured that we shall get our share, and we cannot contemplate loss of autonomy with satisfaction.

to the five billion barrels already produced and the seven billion estimated in our reserves, another six to twelve billion barrels are to be added.

"I dare say this both because of the many scientific facts and deductions now before me, many of which have not been published, and because the doubling of recovery has already been done. In the Bradford field,



Flow pipe discharging into open earthen reservoir.

"A future supply from oil fields equal to our growing needs can hardly be considered as assured by any one willing to face the facts. Future supplies may prove unexpectedly large but again they may prove to be unexpectedly small. Domestic production has not met our needs and there is no encouragement for thinking it can in the future. We are requiring from Mexico some hundred millions of barrels for this year of 1920, without which we would indeed be in uncomfortable straits and yet political conditions in Mexico might cut off this margin of imports at any time and confront us with most unpleasant alternatives. Without question it is desirable to investigate other domestic resources than our oil fields and to develop those resources which promise most in providing petroleum or petroleum substitutes at home.

"The search for other sources of supply is primarily a search for raw materials, from which the various products may be derived in quantity, quality, and costs equal to our needs. There are two kinds: plant materials, which grow on the surface of the land; and coal, oil shales, and bituminous sands which are a part of our rock formations.

"There are, of course, waste materials on the farm, in the lumber camps, that total to vast amounts and from them much alcohol and ether is or may be economically derived. The quantity now being used as motor fuel is, however, negligible in comparison with our needs. What may be derived in the future is a matter largely of technical and economical development but in my opinion the quantity available for some time to come must be of itself of minor importance. The chief obstacle, one commonly overlooked, is

that the waste materials are widely scattered, making the problem of collecting workable quantities beyond economic development at anywhere near the present scale of prices for motor fuels.

"If all of the soft coal and lignite consumed in this country was retorted and the volatile constituents recovered, our supply of liquid hydrocarbons would be materially added to but would by no means fill our needs. The recovery of the liquid hydrocarbons from coal is more an economic than a technologic problem and depends mostly upon satisfactory marketing of the residue coke or semi-coke.

Shales Constitute Reserve.

"From our oil shales we may derive a comforting sense of security as to the future through knowing that they constitute a reserve much larger than in our oil fields. Undoubtedly a considerable part of our future petroleum needs will be met from this latent resource, the development of which should be hastened by every wise means that oil from it may be available in the day of need.

"Reviewing the various resources from which our ever-increasing demands might be met leaves me with the conviction that reliance cannot be placed on any single one of them; yet the cumulative effect from the



NO GAS ESCAPES FROM THESE TANKS.

vigorous development of all would, in my opinion, meet reasonable future needs so far as they can be anticipated.

"I have recorded myself as believing our future needs will be met, yet this statement must be qualified in that only by the energetic development of every resource will there be a sufficiency of petroleum products and that there will probably be recurrent periods of undersupply because of the inherent nature of the oil industry.

"Few realize that were no more wells drilled for a year our production would drop off 25 to 35 per cent. Each year it is necessary to drill new wells and to find new fields. Next year's supply is dependent upon oil from fields whose existence is not now known."

Can Save 300,000,000 Gallons.

More than 300,000,000 gallons of gasoline, enough to drive 1,200,000 automobiles consuming 250 gallons each, is lost every year in evaporation of petroleum when transferred from the wells to the refineries, according to Mr. Lewis. This loss is entirely preventable and does not include other losses which may be avoided. The total evaporation loss is 600,000,000 gallons annually.

The most regrettable feature of this loss, according to Mr. Lewis, is not that more than three hundred million gallons of motor fluid is wasted, but that that which is wasted is of the very best quality; of such high quality, indeed, that its saving would increase the general standard of all the gasoline used in the country. The Bureau of Mines will shortly issue instructions to oil men as to how to remedy this situation.

The statement that 600,000,000 gallons of oil is lost annually through evaporation is not made unthoughtedly. The Bureau of Mines has made an investigation and this conclusion was arrived at. About 20 per cent of the gasoline content of crude oil has been found to be escaping into the air, and the recovery of half of it will improve the

quality of America's motor fluid as well as increase its quantity.

"From the time that the crude oil reaches the surface of the ground at the well, the oil passes through a series of tanks and pipe lines until it reaches the refinery, sometimes thousands of miles away," Mr. Lewis said. "In the course of its journey the oil is exposed to sun and air, and the gasoline, being very volatile, vaporizes and escapes into the atmosphere. Although it has been generally known that such losses occur, no one up to the present time has called attention to their magnitude. The methods of handling crude oil in the field have grown up from the time when gasoline was a drug on the market, and there was consequently no incentive for conserving it. Until recently no one stopped to consider whether the methods devised for conditions twenty and thirty years ago were still satisfactory for today.

"With the co-operation of the Bureau of Mines in placing information at their disposal, the oil companies are awakening to the losses of gasoline which have occurred, and are taking active steps to save the gasoline which formerly escaped into the air and benefited no one.

"Conservation not only in production but also in use, is practical and important. The producers of petroleum and its products should examine critically and minutely every stage in the production, transportation, and refining of the oil. Recently an investigation of this bureau, carried on in a comprehensive manner in co-operation with a number of large companies, disclosed large losses by evaporation from crude oil in storage. The data indicates that a 20 per cent loss of the gasoline content is probably conservative and that at least half of this may be economically saved. Now that it is known, such conditions should be corrected as soon as possible and all similar leaks should be stopped.

Consumer Must Do His Part.

"The consumer has an equal responsibility placed upon him. Our automobiles are needlessly extravagant and inefficient. No one

knows how much the consumption per car might be reduced by improved construction and operation. Petroleum products should be put into their most essential and irreplaceable uses. The use of fuel oil, which in a broad way might be defined as a solution of asphalts and waxes in lubricants, should be diverted from use in steam raising as soon as practicable and used in internal combustion engines or wherever it will yield more power or is not replaceable by coal or other materials of greater abundance. Cracking heavy oil into gasoline is an economic loss which should be tolerated only until the problem of a satisfactory automotive engine for consuming the heavy oils can be solved. In cracking there is both a loss of material and a loss because of manufacturing costs, yet the gasoline resulting yields hardly half the power in the automotive engine of today that the original heavy oil would in the Diesel type of engine.

"This is but a sample of the responsibilities of the consumer in solving the problem of meeting the ever-increasing demands for petroleum products. There is needed the sympathetic co-operation of dependent industries (principally the automotive) and the public with the oil industry. Understanding and help should replace investigations and interference, but in arriving at this understanding the great body of upright oil men should insist that every oil company play square with the public. For the public and the dependent industries to follow out destructive and not constructive policies toward the oil industry would, in my humble opinion be unmitigated folly. The key is understanding, and in building up this understanding the Bureau of Mines, which is in perhaps a better position than any other government agency to interpret the problems of the oil industry to the people and to the government, is endeavoring to play a constructive part."



FLOW TANK—FROM TWO TO THREE MILLION FEET OF GAS ESCAPE DAILY.

AMERICAN CAPITAL CONTROLS WORLD COPPER PRODUCTION

The world's consumption of copper, which at the beginning of the nineteenth century was 15,000 tons per annum, had increased by 1917 to nearly 1,500,000 tons, according to a publication recently made by the Department of Commerce. The production of the present decade will exceed ten million tons, or more than the whole production of the last century, but even then it is doubted whether all demands will be met since the exhaustion of existing sources of supply is foreseen.

While more than three hundred companies contribute to the world production, about a score of mines furnish fully one-half of the total annual output, and the United States from its mines in Arizona, Montana, Michigan, Alaska, Nevada, New Mexico and California contributes 60 per cent of the world's production. Among the world's other large producers are the Sudbury mines in Canada, the Chuquibambilla mines in Chile, the Cerro de Pasco mines in Peru, and mines in Mexico and Venezuela.

"Although existing reserves may be large enough for the immediate future, some of these large mines cannot have a very long life, and their shutting down would appreciably effect production unless fresh discoveries are made," says the department.

Noting the reduction in amount of copper recovered from ore, the department says there is not the margin for increasing the available reserves by lowering the grade of the ore mined, such as obtains in iron ore mining, and that any increase in the supply of copper or the maintenance of the present rate of production must depend on the discovery of new deposits or improvement of treatment methods. "During the last decade the world has been searched for new occurrences of copper ore and it is certain that the efforts of capitalists and mining engineers will not be relaxed," the department adds. "Metallurgists will also perfect the existing methods of extraction or find new ones whereby the field will be increased."

The United States, with its refineries of the Atlantic seaboard, controls a large portion of the South American and Canadian copper output. As a result, the practical control of the world's copper trade which during the nineteenth century was centered in Great Britain has passed to America. In view of this change, the English author of the article published in "Commerce Reports" is lead to express the hope that American copper magnates will not use their power to bring about a world shortage and drive up the price of copper.

The chief hope for escape from any possible world shortage is found, according to the article published by the Department of Commerce, in the resources in Mexico, Chile, Central America, South America, those on the Kirghese Steppes and in the Ural Mountains of Russia; in the Belgian Congo and in southwestern Africa. There is not sufficient data on hand, however, to determine

\$2,000,000 ADDITIONAL TO BE ASKED FOR MINES BUREAU

An estimate for an appropriation for the Bureau of Mines about 135 per cent greater than that of the current year will be presented to Congress by the Interior Department. The appropriation for the current fiscal year, ending in June, 1921, totals \$1,302,642, and the estimate for the fiscal year 1922 will exceed this figure by more than \$2,000,000.

It is understood that salary increases affecting every employe of the bureau from the top to the bottom will be recommended, although the total sought for this purpose does not involve a very large amount. If Congress makes an appropriation on the basis of contemplated requests, the salary of the director will be \$7,500 instead of \$6,000 and other salaries in Interior Department bureaus will be as follows: Assistant chiefs, \$5,000; chief clerks, \$3,500; assistant attorneys, \$2,500 to \$4,000; division chiefs, \$3,000; assistant division chiefs, \$2,500. Increases ranging from 20 per cent upward will be sought for clerical employes of all grades.

The estimates for the Interior Department will call for an appropriation of \$266,000,000, or an increase of \$21,000,000 over those of last year. Increases will be asked for all bureaus except the Pension Bureau, whose estimates will be reduced by about \$13,000,000 over expenditures of this year. The desired increases are: Bureau of Mines, \$2,000,000; Geological Survey, \$813,000; Reclamation Service, \$17,000,000; Alaskan Engineering Commission, \$3,000,000; Patent Office, \$1,000,000; Indian affairs, \$1,000,000; national parks, \$1,500,000.

whether future supplies will equal the world's demand.

The following table shows the production of the United States, the British Empire and other countries for every fifth year from 1888 to 1918:

Year.	World's total, in tons.	United States.		British Empire.		Other countries.	
		Tons.	Per cent. ^a	Tons.	Per cent. ^a	Tons.	Per cent. ^a
1888	262,000	103,000	39.3	24,000	9.2	135,000	51.5
1893	310,000	149,000	48.1	26,000	8.4	135,000	43.5
1898	442,000	239,000	54.1	34,000	7.7	169,000	38.2
1903	610,000	317,000	52.0	62,000	10.1	231,000	37.9
1908	790,000	427,000	54.1	79,000	10.0	284,000	35.9
1913	1,002,000	555,000	55.4	91,000	9.1	356,000	35.5
1918	1,395,000	848,000	60.8	...	...	...	...

^a Expressed as a percentage of the world's total output.

FEDERAL TAXES AND THE AMERICAN MINING CONGRESS

BY PAUL ARMITAGE,

Chairman, Committee on Mine Taxation

The activities of the American Mining Congress in an endeavor to solve the intricate problem in mine taxation extended over a period of fifteen years. To its annual convention (the sixteenth) in Arizona, there came a quota of experts on this subject, that, up to that day, were never before assembled, and the record of the discussion that was provoked has become a text book on the subject. (See proceedings American Mining

Legislation Affecting Mines," by A. Scott Thompson, at that time chairman of its Committee on Mine Taxation. (See JOURNAL, December, 1918.)

At that time the present act was in process of formation. It did not emerge from the conference committee until the next year, only becoming a law in February, 1919. Therefore, the article referred to does not embrace the subsequent effort.

The Mining Congress in the interest of more equitable taxes had proposed to the Senate Finance Committee when the bill was before it some eight suggestions. These are printed in full in the JOURNAL of October, 1918. Five of these were adopted either in the exact language or in substance and are found in the act.

One of these—the allowance for replacement of the ore mined, found expression in the discovery provision. (1918 Law, Section 214 A.) This clause gives to the taxpayer as an allowance, not the cost of re-finding ore taken out, but its value when found.

Two recommendations of the Mining Congress, i.e., (1) that the limitation of invested capital to the par value of the stock should be elided and (2) the appointment of a board of equalization with powers to adjust and settle taxes—were not adopted. It is now, however, admitted by common consent that the omission of these constitute two of the greatest blemishes in the law.

As soon as the act was passed the Mining Congress through its Tax Committee took up with the department the question of new regulations to interpret the act and define the procedure thereunder. It had frequent conferences with the various officials and the advisory board. It fought for the principle that in valuation no hard and fixed formula should be adopted, but that due consideration should be given to all the factors and that any well settled standard or method of valuation should be considered. This principle was organized and incorporated in the regulations. (See Regulation 45, Article 26, et seq.)



PAUL ARMITAGE.

Congress, 1913, Vol. XVI.) No bibliography on mine valuation is complete without it.

The aid of the Mining Congress in recent years to the industry in connection with federal revenue laws and regulations has no parallel. A partial outline of some of these is contained in an article on "Revenue

The Congress further contended for the right of the mine owner to capitalize during the early periods all items of development and in later periods major items, charging minor items to expense. This was likewise adopted. (See Regulation 45, Article 222.)

On the question of discovery, its mine committees urged that to entitle the taxpayer to the benefit of this provision he must have found a body of ore of sufficient size and character to warrant its commercial exploitation. In other words, that the terms used demanded the discovery of a large and valuable deposit of mineral and it was not until this fact had been demonstrated that the discovery was complete. This principle was admitted. (See Regulations 45, Article 219. See Form D.)

It is not possible within the compass of this article even to outline the various other recommendations that were adopted. The foregoing are a few of the more important.

It was the Mining Congress, however, that formulated a proposal that a special unit be composed of experts equipped to deal with the special questions of the wasting industry. And the Natural Resources subdivision became a fact.

In the making up of the personnel of this department, the Mining Congress rendered continued aid to the government.

In September, 1919, at a meeting of the American Institute of Mining and Metallurgical Engineers held in Chicago, which various representatives of the federal government attended, it was suggested that a committee be appointed to confer and advise with the Commissioner of Internal Revenue on the problems of mine taxation. From this suggestion germinated the Federal Tax Committee of the institute. Two members of the Mine Tax Committee of the Mining Congress became part of this committee and took an active interest in its subsequent discussions with the government.

With a few exceptions, the principles laid down in the report of that committee have become axioms of mine taxation and valuation.

In November, 1919, the twenty-second annual convention of the Mining Congress was held at St. Louis. The Mine Taxation Section at that convention had presented to it a series of illuminated discussions of various new phases of the subject. These were printed both as a part of the proceedings of the convention and as a special pamphlet and widely circulated.

The widespread dissatisfaction with federal tax laws hastily framed to meet war expenses led to the calling of the Allied Tax Conference in Chicago April 16, 1920. This was called by the American Petroleum Institute, the Mining Congress and the Na-



J. C. DICK

Formerly of Salt Lake City, now chief of the Natural Resources Sub-division, U. S. Internal Revenue Department. Mr. Dick's experiences in the West have been of inestimable value to the Revenue Department in solving mine taxation problems. Mr. Dick will address the twenty-third annual convention of the American Mining Congress, Denver, November 15, 1920.

tional Conference Board. Representatives of over 140 business associations attended and at that meeting a tax committee of fifteen members representing the widest variety of interests in the nation was formed.

Two members of the Tax Committee of the Mining Congress became members of that committee.

Members of the committee are as follows: Messrs. Fayette R. Plumb, Magnus W. Alexander, Charles A. Andrews, Albert Green Duncan, James A. Emery, R. P. Hazzard, R. C. Allen, Paul Armitage, Wilson Compton, James J. Forstall, F. W. Lehmann, L. F. Loree, H. C. McKenzie, Harry H. Smith, and James Craig Peacock.

This committee in conjunction with its advisors, Messrs. Dr. T. S. Adams, Colonel Robert H. Montgomery, A. E. Holcomb, and J. F. Zoller, and also Professors Fairchild of Yale, Sellgman and Haig of Columbia, Kemmerer of Princeton, Otto H. Kahn and George E. Holmes, worked long and arduously during the past summer on the questions of remedial legislation. It has just

prepared and submitted its report to a second conference which was held in New York on October 22 and 23.

The following is a summary of its recommendations:

1. To repeal the excess profits tax.
2. To reduce the surtaxes on saved reinvested income to 20 per cent.
3. To increase the corporation income tax to 16 per cent, except in cases of public utilities subject to regulation, which will remain at 10 per cent.
4. To abolish the corporation exemption of \$2,000.
5. To increase the postage rate on first-class matter to 3 cents.
6. To increase various excise taxes.

The committee also recommends various amendments to the present income tax law designed to improve it both in administration and in equitable distribution. These are in substance:

1. That the net loss for any year be deducted from income of succeeding year, or of preceding year to extent that income of succeeding year is insufficient, this provision to be retroactive to 1918.
2. That on exchanges of property, no gain be considered unless the property received is the equivalent to cash, in that there is a ready market in which it can be sold.
3. That in a corporate reorganization involving a mere exchange of securities, no profit be deemed to have been made until an actual sale occurs of the stock received in exchange.

COAL EXPORT COMMITTEE'S REPORT FOR CURRENT YEAR

Following is the report of the Coal Export Committee of the American Mining Congress for 1920:

"During the past year conditions have existed in the coal industry unlike anything ever experienced before. The demoralization of transportation for a considerable period, a series of embargoes, followed by orders of the Interstate Commerce Commission, and continued uncertainty as to a reliable source of supply, have all served to scatter, rather than to concentrate, the leaders of the industry.

"Repeated efforts were made during the year, both by this committee, and by other interests, to create an export organization analogous to many already functioning under the Webb-Pomerene law, but without success. Independent shippers and exporters have called meetings of their particular associates and preliminary organizations have been effected, only in turn to meet



HENRY MACE PAYNE,
Chairman Coal Export Committee.

with apathetic interest and to disappear without service.

"The fact that such continued efforts have been made is in itself evidence of the instinctive recognition of those interested in the export of American coals, that some such organization is needed. But the plain truth of the matter is that a few of the large companies have their own organizations and there are not enough of the small companies actively interested to create an organization strong enough in itself to ignore those who now control the market.

"It is inevitable that sooner or later competition of this nature must result as it has in other industries in a distinct loss of trade. The demand for American coals will not always be based on post-war conditions, and close co-operation now would result in a standardization both of quality and methods, which would create a permanent demand for high grade coals purchased on a uniform basis and in established markets throughout the world.

"The lesson of co-operation in international trade has been learned not only in other countries, but here in America by the copper, lumber and many other industries. That it has not as yet been put into effect by the coal trade is due principally to a

'holier than thou' attitude on the part of a sufficient number of its members to prevent concerted action.

"As in every other movement of a national character, the American Mining Congress will continue to use its influence for the betterment of the industry and will at all times serve in any capacity where opportunity exists. In presenting this, its second an-

nual report on the export of coal, the committee feels that it can truthfully say that much progress has been made and that it is inevitable that co-operative buying shall be met by co-operative selling. To this end its services are pledged.

"HENRY M. PAYNE,
"Chairman."

POWER SURVEY TO EFFECT SAVING IN COAL AND MONEY

Thirty million tons of coal may be saved annually by electrification of railroads between Washington and Boston, according to a statement made by W. S. Murray, chairman of the Superpower Survey, at the convention recently held in Washington by the Waterpower League of America.

The Superpower Survey is being made to ascertain the feasibility and advisability of linking together existing power systems and others which may be developed in the territory between Boston and Washington, extending inland 150 miles from the coast and embracing 60,000 square miles, or 2 per cent of the area of the United States. Expenses of the investigation are being borne by a congressional appropriation of \$125,000.

If the plan now considered is carried out, there will be added to existing power stations a total of 2,700,000 kilowatts of new capacity. This development, Mr. Murray holds, will save not only 30,000,000 tons or \$150,000,000 worth of coal, but also an additional \$150,000,000 due to the lower cost of maintaining electrical machinery instead of steam-driven machinery. Included in this figure are savings in the reduction of train miles by virtue of higher speed. It is not proposed to electrify all the steam railroads in the Washington-Boston territory but only those where the change will be justified by the density of traffic.

The object of the survey, Mr. Murray said, is two-fold: First, to fix and allocate the amount of waste incident to present improper methods of power production and distribution; second, to make recommendations with respect to original plans by means of which this waste may be eliminated.

Discussing the mining problem, so intimately related to the super-power system in the matter of continuity of power, Mr. Murray said:

"I am of the belief that none of the large superpower stations should be erected within the confines of large cities. Ring busses should be placed around them, from which power may be delivered, and the new superpower stations built as far outside the limits of such cities. Another prerequisite of as much importance as securing water will be that of securing ground for coal storage. Such storage will amount to millions of tons and will be a regulating feature paramount to a continuity of power production while answering also the fluctuating labor conditions at the mine.

"Among the many problems we are studying is one of prime importance, looking to the establishment of power continuity. This is the selection of a coastal point where may be erected three co-ordinated plants—one a coaling station, where the coal will be received in bulk from the mines and loaded into barges for transport by sea to the superpower stations erected at tide water; another a power station generating its quota of energy for the superpower system and the third a by-product plant extracting the gas, the ammonium sulphate, benzol and tar, and coke, the latter to be used for metallurgical or power stations as conditions may dictate."

LIGNITE EXPERIMENTS PLANT

The Bureau of Mines has arranged for a co-operative investigation of the utilization of lignite, of which there are large deposits in the west and middle west. Interested parties have agreed to subscribe \$100,000 for the erection of a plant at New Salem, North Dakota.

WASHINGTON NEWS BRIEFS

HURREY QUILTS SERVICE

C. B. Hurrey, Deputy Commissioner of Internal Revenue, will retire from the service November 1 to engage in private business in Washington.

COTTRELL VISITS STATIONS

Dr. F. C. Cottrell, director of the Bureau of Mines, will visit the experimental stations at Bartlesville, Okla., Petrolia, Tex., and Birmingham, Ala., en route to the Denver convention of the American Mining Congress.

GOVERNMENT DROPS TAX CASE

Proceedings against the Picher Lead Company for failing to file its income tax return upon scheduled time have been dropped by the government. The return was two days late in reaching the revenue office and the federal court of the Western District of Missouri held that inasmuch as it was mailed on the day when it should have been received the company had acted in good faith and the penalty imposed by the government was not justified. The government appealed, but before the case was called by the U. S. Supreme Court last month Solicitor General Frierson withdrew the action.

ASSISTANT TO PALMER QUILTS

Dan W. Simms, the special assistant to the Attorney General who was in charge of prosecutions of coal operators and labor union officials indicted under the Lever Act at Indianapolis last winter, has resigned. Differences of opinion between the assistant and Attorney General Palmer over conduct of these cases was reported.

RUSSIA GOLD IMPORTS O. K.

The arrival of \$339,636 in gold from Russia last month occasioned almost nationwide controversy. Following the making of an investigation, however, the Department of Justice announced that the shipment was made in the course of an entirely proper commercial transaction from Revel, Esthonia to the commercial agent of the Estonian government in America, and that the gold could be properly received in this country. Before the Department of Justice made this announcement, suspicions had been voiced in some quarters that the gold was intended to defray the expenses of Bolshevik propaganda.

COPPER VIA PANAMA CANAL

News dispatches from Butte are to the effect that the Anaconda Copper Company, to save freight, will ship copper to New York through the Panama Canal instead of overland.

U. S. NOT RESPONSIBLE FOR FUEL ADMINISTRATION ACTS

The Comptroller of the Treasury has ruled that a fuel shortage caused by rulings of the Fuel Administration cannot be used as a set-off by contractors working for the government. The National Brass & Copper Tube Company, Inc., appealed a decision of the auditor of the War Department disallowing a claim of \$8,000.00, part of which was based on the contracting company's inability to secure fuel during the winter of 1918, and the resulting shut-down of its plant. The company claimed the United States government should be held responsible for the fuel shortage because the Fuel Administration was part of the government.

The War Department's auditor held that the Fuel Administration was a part of the government but that the government was the sovereign and that its rulings affected all of the people alike; that the tube company should have taken these rulings into account. He held also that the government in contracting with the tube company was not acting in the capacity of a sovereign but in the capacity of a citizen, and that, therefore, as a contracting party the government was not responsible for what the government did as a sovereign; or, in other words, that the government could not be held liable for financial losses caused by Fuel Administration rulings which affected every citizen alike. The Comptroller of the Treasury approved the ruling of the auditor of the War Department.

The tube company's claim was for a total of \$8,000.00. Of this amount \$4,762 was allowed because the government had furnished incorrect body gauges. The Comptroller of the Treasury ruled that the government was responsible for this error.

FUNDS FOR ALASKA STATION

An appropriation for purchasing grounds and constructing buildings for the mining experiment station at Fairbanks, Alaska, will be asked of the forthcoming session of Congress. The station is now occupying quarters in the Fairbanks Commercial Club and is in need of larger space.

MINERAL LANDS VACANT

A recent report by the General Land Office of the Interior Department gives the character and location of unappropriated and unreserved public lands, surveyed and unsurveyed, by states, land districts and counties. A summary of this report showing acreages by states and counties follows:

Arkansas: Baxter, 16,380; Boone, 2,320; Marion, 8,280; Newton, 10,580.

California: Trinity, 18,620; Siskiyou, 3,490; Alpine, 10,581; Kern, 685,869; San Bernardino, 3,297,399; Anador, 12,223; Butte, 18,084; Calaveras, 39,253; El Dorado, 29,401; Madera, 2,051; Mariposa, 38,486; Nevada, 38,845; Placer, 8,391; Sacramento, 39; Shasta, 164,600; Stanislaus, 1,529; Sutter, 200; Tehama, 44,389; Trinity, 31,761; Tuolumne, 17,463; Yuba, 4,610; Lassen, 1,007,654; Modoc, 272,169; Plumas, 10,574; Sierra, 3,186.

Colorado: Boulder, 800; Clear Creek, 18,100; Douglas, 800; Eagle, 11,680; Gilpin, 7,840; Routt, 7,680; Summit, 10,980; Archuleta, 123,105; Dolores, 57,560; La Plata, 102,400; Montezuma, 268,294; Eagle, 248,624; Garfield, 850,066; Gunnison, 7,900; Mesa, 141,144; Moffat, 1,195,236; Pitkin, 50,420; Routt, 291,972; Chaffee, 78,040; Fremont, 32,460; Lake, 7,582; Park, 105,232; Summit, 465; Teller, 4,200; Dolores, 24,364; Gunnison, 502,360; Hinsdale, 115,210; Mesa, 789,530; Montrose, 596,714; Ouray, 18,365; Saguache, 116,549; San Miguel, 296,450; Teller, 22,035.

Idaho: Boise, 108,062; Elmore, 128,464; Idaho, 157,530; Owyhee, 3,203,958; Valley, 12,321; Washington, 134,079; Bonner, 19,693; Boundary, 11,622; Shoshone, 79,667.

Montana: Fergus, 264,126; Granite, 109,192; Mineral, 56,889; Missoula, 47,692; Powell, 45,257; Sanders, 37,275.

Oregon: Baker, 156,826; Grant, 26,760; Douglas, 196,796; Josephine, 121,640; Lane, 96,016.

South Dakota: Custer, 21,201.

Utah: Beaver, 1,256,984; Box Elder, 1,817,817; Cache, 229,389; Carbon, 493,577; Davis, 25,350; Duchesne, 181,916; Emery, 1,162,072; Garfield, 2,440,078; Grand, 1,771,743; Iron, 1,021,926; Juab, 1,772,035; Kane, 2,273,297; Millard, 3,267,703; Morgan, 2,327; Piute, 183,218; Rich, 237,087; Salt Lake, 30,855; San Juan, 3,624,043; San Pete, 370,205; Sevier, 447,709; Summit, 62,427; Tooele, 3,305,320; Utah, 385,403; Wasatch, 19,607; Washington, 625,157; Wayne, 1,420,669; Weber, 61,775; Daggett, 131,755; Duchesne, 98,773; Uintah, 1,331,030; Wasatch, 36,468.

Washington: Ferry, 152,367; Okanogan, 27,240; Stevens, 127,230.

Wyoming: Hot Springs, 696,558; Park, 829,732.

Vacant coal lands are listed as follows:

Colorado: Delta, 233,169; Gunnison, 503,360; Hinsdale, 115,210; Mesa, 789,530; Montrose, 596,714; San Miguel, 296,450.

New Mexico: Colfax, 906; McKinley, 355,112; Mora, 6,370; Rio Arriba, 534,665; Sandoval, 480,113; San Juan, 701,854; Santa Fe, 26,093; Socorro, 457,995.

MINES BUREAU COMMENDED BY GENERAL ENGINEERING CO.

The Bureau of Mines has been strongly commended for its experiment work on ores at the Salt Lake City, Utah, Station. In a letter to Director Cottrell the General Engineering Co., of Salt Lake, says:

"It is a pity that the mining public in general do not have a better understanding of the facilities offered by the bureau along these lines, and of the assistance which the bureau is able to give to the mining industry. We hope the government will fully realize the importance of the work which the bureau is doing for the mining industry in general, if they do not already, and that this realization will prompt them to increase the bureau's appropriations to such an extent as may extend its scope of usefulness wherever it is seen to be necessary to do so."

UTAH RATE INVESTIGATION

The Interstate Commerce Commission will conduct a hearing at Salt Lake City November 1 on the refusal of the Utah Pacific Utilities Commission to place in effect intrastate rate increases equal to the interstate increases. The Utah chapter of the American Mining Congress held that such a raise of intrastate rates would stop operations in many mines.

FEWER COAL MINE DEATHS

According to Bureau of Mines reports, 191 men were killed in coal mines during June, as compared with 279 during the same month of 1919. Fatalities during the first half of 1920 totaled 1,001, or 128 less than those of the parallel period of last year.

NEXT SAFETY FIRST MEET SOUGHT BY SEVERAL CITIES

Although the mine rescue and safety first meet at Denver was held only a few weeks ago and another will not be staged until 1922, various cities have already made it known that they would like to serve as host. Among them are Butte, Des Moines, Springfield, Illinois, and Washington, as well as several West Virginia cities.

PLATINUM AND ALLIED METALS

A report on "Platinum and Allied Metals in 1919," by J. M. Hill, recently issued by the United States Geological Survey, shows the production, consumption, market, and prices, and contains notes on deposits and mining in the United States and the leading foreign countries.

The United States is still dependent on foreign countries for its supply of platinum. The small output of crude platinum from domestic mines increased from 647 ounces in 1918 to 824 ounces in 1919, but the total quantity of refined platinum and allied metals recovered from foreign and domestic ores by domestic refiners decreased from 59,753 ounces in 1918 to 45,109 ounces in 1919. Only 11,759 ounces of refined platinum was derived from domestic ores in 1919. On the other hand, the imports of platinum and allied metals increased from 56,753 ounces in 1918 to 68,054 ounces in 1919, nearly half of which came from Colombia. The estimated world's production increased from 62,283 ounces in 1918, the lowest recorded output, to 67,180 ounces in 1919, but was still far below that of preceding years.

During the war 83 per cent of the platinum metals consumed in this country was used in essential industries (chemical, electrical, and dental), but in 1919 only 40 per cent was so used, and the quantity used for jewelry increased from 12 to 56 per cent. The remaining small percentage was divided among several minor uses.

BAUXITE AND ALUMINUM

The value of the primary aluminum produced in the United States in 1919, \$35,558,000, was about 6 per cent less than that in 1918, according to the United States Geological Survey. This decrease, however, was due chiefly to the accumulation of large stocks in 1918. With a favorable market the output in 1920 may be greater than ever.

Arkansas furnishes nine-tenths of the bauxite mined in the United States. The total quantity of bauxite produced in the United States in 1919 was 376,000 tons, of which 333,000 tons, valued at \$1,885,000, was mined in Arkansas.

BRIQUET INDUSTRY GROWS

During the last ten years two and three-quarter million tons of fuel briquets have been made in the United States and sold for more than \$14,000,000. The principal raw materials used in this industry are culm from the anthracite mines of Pennsylvania, slack produced by the rehandling of coal shipped by vessel to the head of Lake

Superior, and carbon residue from the manufacture of oil gas. In 1919 twelve briquetting plants were in operation in the United States—five in the Eastern States, four in the Central States, and three on the Pacific coast. The output of these plants in 1919, according to the United States Geological Survey, was 295,734 short tons, valued at \$2,301,054.

VALUATION ENGINEERS NAMED

S. M. Greenidge and Walker S. Clute have been appointed valuation engineers in the oil and gas section of the Bureau of Internal Revenue, Income Tax Unit.

PRICE DECLINE GUARANTEE ON TIN PLATE IS OPPOSED

Sheet and tin plate manufacturers expressed their disapproval of the giving of guarantees against price decline by manufacturers to merchants at a special meeting held in Washington early in October before the Federal Trade Commission. They were represented by T. D. McCloskey and Geo. D. McElvain, of the National Association of Sheet & Tin Plate Manufacturers. Mr. McCloskey and Mr. McElvain told the Trade Commission that the giving of price decline guarantees tended to monopoly and discrimination, amounted to the granting of rebates and encouraged speculative buying.

AUGUST PETROLEUM EXPORTS MORE THAN 10,000,000 BARRELS

Petroleum exports during the month of August exceeded 10,000,000 barrels—breaking all records. Domestic production continued to increase and amounted during the month to more than 39,000,000 barrels. Stocks of domestic petroleum held by pipe line and other companies showed a net gain exceeding 800,000 barrels, notwithstanding the decrease of almost 1,000,000 barrels in California. Stocks of Mexican petroleum held in the United States by importers also increased during the month, the increase being 1,250,000 barrels. The estimated consumption of domestic and imported petroleum for the month was 47,900,000 barrels. Practically 9,000,000 barrels were contained in trunk pipe-lines east of California at end of month, which is equivalent to the entire country's production for one week. The net balance of domestic stocks in tanks east of California, together with stocks of Mexican petroleum held by importers in the United States, amounted at the end of the month to 93,000,000 barrels.

BEDFORD SUCCEEDS KOSTER

A. C. Bedford, chairman of the board of directors of the Standard Oil Company of New Jersey, has been made chairman of the executive committee of the Chamber of Commerce of the United States. He succeeds Frederick J. Koster, of San Francisco, who will return to New York.

GOLD AND SILVER MOVEMENTS

Gold imports during the last ten days of September totaled \$19,887,931 of which \$17,891,223 came from Europe; \$1,007,291 from North America and \$846,480 from South America. France furnished the largest total—\$10,975,635, and the United Kingdom \$5,879,611.

Imports from January 1 to September 30, inclusive, totaled \$198,888,957, of which \$116,974,893 came from Europe; \$38,741,876 from North America; \$7,778,443 from South America; \$32,866,164 from Asia; \$280,358 from other countries.

Gold exports for the last ten days of September totaled \$3,963,834. Exports from January 1 to September 30, inclusive, totaled \$259,331,925 or more than \$60,000,000 in excess of imports.

Silver imports the last ten days of September totaled \$2,755,620. Imports from January 1 to September 30 aggregated \$73,496,929.

Exports during the last 10 days of September amounted to \$711,820, and from January 1 to September 30 to \$98,682,827.

WEST VIRGINIA COAL OPERATORS SELECT PRICE COMMITTEES

Coal operators of northern West Virginia at a "fair price" conference held in Washington during the middle of October adopted plans to fix prices at approximately \$5 and \$6 per ton, and appointed committees to arrange details for carrying out this intention. The state was divided into three districts and one operator was appointed to consider requests for coal and complaints of high prices in each district.

The fair price committee for the entire territory involved consists of: E. Drene, of Elkins; C. D. Robinson and C. H. Jenkins, of Fairmont; A. L. White, of Clarksburg; John L. Hatfield, of Morgantown; J. C. McKinley, of Wheeling, and Douglas Gorman, of Baltimore. The committeemen for the different districts are: J. P. Haniel of Martinsburg, for Morgan, Berkeley and Jefferson counties; J. J. Mulvehill of Wheeling, for Ohio, Hancock, Brooke, Wetzel and Tyler counties; and William Kennedy of Martinsburg, for Wood, Pleasant, Richie and Wirt counties.

QUICKSILVER PRODUCTION

From April 1 to June 30, 1920, inclusive, 3,685 flasks of quicksilver or 75 pounds net, was produced in the United States, according to F. L. Ransome, of the United States Geological Survey. This is 1,214 flasks less than was produced in the first quarter of 1920 and 255 flasks less than was produced in the second quarter of 1919. Only 13 mines were reported as productive—8 in California, 1 in Nevada, 1 in Oregon, and 3 in Texas. California produced 2,704 flasks, Texas 952 flasks, and Nevada and Oregon together 29 flasks.

The average monthly price of quicksilver per flask in San Francisco for the quarter was \$100 in April, \$87 in May, and \$85 in June. The average price for the quarter was therefore about \$91 as compared with about \$86 for the first quarter.

The chief cause of the decrease in production during the second quarter was the destruction by fire, on June 20, of the reduction plant of the New Idria mine, in California, and the consequent loss of quicksilver already reduced during the earlier part of that month. Other causes were a shortage of efficient labor and a reduction in the average grade of the ore.

At a time when initiative in the quicksilver-mining industry is at a low ebb and the tendency is rather to abandon enterprises already begun than to embark on new ones it is of interest to note that the formerly productive Klau mine, in San Luis Obispo County, Calif., has been reopened, and that its 50-ton furnace has been put in repair, so that the mine is likely to become a considerable producer.

SALT LAKE INVESTIGATIONS

Work on vapor pressure of lead chloride will be discontinued temporarily by the Bureau of Mines experimental station at Salt Lake City. Experiments will be made, however, in efforts to determine favorable conditions for volatilization. Some recent tests indicated that all silver and lead could be volatilized in less than two hours.

The Salt Lake station has made tests on 600 pounds of Nevada vanadium ore to determine the possibilities of concentrating the ore and treating the concentrates. Tests have also been made on the concentrates and differential flotation of complex sulphide ores with a view of making high recoveries of silver, lead and zinc.

LOUGHLIN GOES TO UTAH

G. F. Loughlin of the Geological Survey has left for Utah to study newly developed ore deposits in the Tintic and Morgan districts.

STEEL INDUSTRY UNIONIZATION

Whether the industry of the nation shall be interrupted in its process of readjustment by another steel strike will probably be decided this month. Samuel Gompers, president of the American Federation of Labor, has called a meeting of the presidents of all labor unions involved in the last steel strike for the purpose of determining whether a new campaign to reorganize the steel industry shall be conducted.

It is not a foregone conclusion that a decision to reorganize the steel industry will be reached. During the last strike, jurisdictional differences arose between the 24 unions involved, and such differences will have to be smoothed over before a new organization campaign starts unless certain failure is to be invited. And it is not at all certain that the Amalgamated Association of Iron, Steel and Tin Workers, which has jurisdiction over half of the steel industry employees, will agree to participate in any new campaign unless its contracts with independent steel mills are left undisturbed.

SURVEY NEARING COMPLETION

Otis Ross, United States cadastral engineer, engaged on a survey in the Cold Bay district of Alaska, will shortly complete his work for the season and return to headquarters at Juneau.

SEPTEMBER SURVEY RECORD

Surveys and resurveys accepted during September by the General Land Office covered 1,005,005 acres represented by 114 plats. There were fifty-one supplementary plats constructed and filed during the month but which embraced no additional surveyed area.

MEXICAN OIL TAXES PAID

Mexican advices are to the effect that petroleum companies have completed payment of their export taxes for July and August, amounting to approximately 8,500,000 pesos. Announcement is made that more than 2,000,000 pesos paid to General Pelaz and other revolutionary leaders would be applied by the de facto national government on account as tax payments.

ALASKA'S MINERAL PROSPECTS

A. H. Brooks of the Geographical Survey returned a fortnight ago from Alaska where he conducted an investigation looking toward the stimulation of mineral industries at the special direction of Secretary of the Interior Payne, in addition to looking over the general work done there by the Geographical Survey.

It is the opinion of Mr. Brooks that the geologic formation of Alaska is favorable to the occurrence of oil and gas. Seepages offer even stronger evidence of their presence and Mr. Brooks looks for considerable prospecting there next spring. It is his opinion that the copper production will be as great during the coming year as it was last year. While there will probably be a falling off in gold production, there is greatly increased activity in prospecting for lode claims in the southeastern part of the territory. He believes that Alaska has suffered during the reconstruction period less than any other mining district in the world.

OIL STANDARDS COMMITTEE

At a meeting of the Committee on Standardization of Petroleum Specifications at the office of the Bureau of Mines in Washington late in October decision was reached to recommend that the organization be placed on a permanent basis. At present the committee is a war emergency affair and will automatically go out of existence six months after peace is declared.

The primary object of the committee, at the time of its creation, was to prepare specifications for government petroleum purchases, but it is hoped by its members that the different states will adopt its findings.

CRANE MADE SUPERINTENDENT OF NEW EXPERIMENT STATION

W. R. Crane, for the last year chief engineer of the War Minerals Relief Commission, has been selected as superintendent of the new experiment station of the Bureau of Mines at the University of Alabama, Tuscaloosa.

ARIZONA SURVEY TO BE MADE

The survey of several townships in the northwestern part of Arizona, covering a territory practically twice as large as the states of Connecticut and Massachusetts combined, is expected to begin early in November. The territory lies north of the Columbia River and is contained in what is known as the Arizona Strip, and its survey was applied for by the state of Arizona. The country is sparsely inhabited, is difficult of access, and is used largely as a sheep and cattle range.

UNITED STATES ARMY BUYS ONE MILLION TONS OF COAL

The Quartermaster General has ordered one million tons of coal for the United States Army camps and posts in the Eastern, Northeastern, Central, and Southwestern Departments. Bituminous orders were given as follows: Eastern and Northeastern Departments, 275,000 tons at \$8.50 per ton; Central Department 200,000 tons at \$7.00 to \$7.25; Southeastern Department, 200,000 tons at \$4.25 to \$6.25. Orders were placed with Dr. E. W. Parker, Director Anthracite Bureau of Information, Philadelphia, for 350,000 tons of anthracite at \$7.25 to \$7.75 per ton dependent upon the month of delivery. These prices are considerably higher than those paid by the army last year, when \$3.42 was the price of bituminous and anthracite ranged from \$7.00 to \$7.50.

UNION HEAD PROPOSES WORLD MUNITIONS STRIKE

William H. Johnston, head of the International Machinists' Association, in a recent statement proposed that the metal workers of the world hold an international conference to discuss methods of forcing disarmament of the nations. In his statement he took the position that it lay within the power of skilled mechanics and metal workers to avoid future war by adopting the expediency of refusing to make munitions and war materials any longer.

RECORD COAL LAND SALE

A record-breaking coal land sale was approved for patent September 10 under Salt Lake City entry. John H. Tonkin and Charles W. Buckley secured 320 acres for \$91,800, the appraisal price ranging from \$275 to \$300 per acre.

OIL SHALE INSPECTION

David White, of the Geographical Survey, is making an inspection of oil fields and oil shale regions in Utah and Colorado.

ALASKA INSPECTOR NAMED

Bert E. Dyer, safety engineer of Butte, Montana, has been appointed by President Wilson as mine inspector for Alaska, in place of Sumner Smith, who resigned. He will look after the development of coal mines on leased lands.

YEAR'S PETROLEUM TONNAGE

Oil made up 24 per cent, or practically one-fourth, of the tonnage of all imports into the United States in Shipping Board vessels during the year ending June 30, according to latest reports of the board. The total import tonnage of all commodities was 7,236,168 tons, of which 1,720,733 tons consisted of crude petroleum.

COLORADO SCHOOL OF MINES

The Colorado School of Mines, dating from 1870, is a state institution supported by the income derived from an annual "mill" tax.

It occupies a site of about twenty-three acres at Golden (altitude 5,700 feet) about thirteen miles west of Denver and at the base of the scenic Front Range of the Rocky Mountains. Golden is connected with Denver by three railway lines and good auto roads.

No other mining school in the world has within easy access such a wide variety of mining properties or such excellent opportunities for observing the latest and best milling and smelting operations.

The school is well equipped with buildings, including a metallurgical research plant 100 by 150 feet in dimension.

The course covers, among other subjects, chemistry, civil engineering, coal mining, electrical engineering, finance, geology and mineralogy, mechanical engineering, metallurgy, metal mining, mining law and safety and efficiency engineering. Many former graduates now hold important positions in various parts of the world. During the past few years the annual number of students has shown marked increase.

The school's world-wide reputation is shown by the fact that in the present enrollment of students (in addition to 167 Colorado students) forty-two American states and thirteen foreign countries are represented, the latter by thirty-one students, ten of whom are from China.

INDUSTRIAL NOTES

The Link-Belt Company is now ready to distribute its 32-page book, No. 345, entitled "Link-Belt Silent Chain Drives for Cement Mill Equipment." Page 9 gives reasons why this drive is ideal for operating ball mills, tube mills, komintters, conveyors, elevators, lineshafts, quarry-hoists, kilns, dryers, and bag-filling machines. These reasons are substantiated by succeeding pages which show many drives in actual operation.

Managers, engineers, superintendents and other officials of cement mills will find it to be a very interesting and valuable book. Copies will gladly be sent on application to the executive offices of the Link-Belt Company, 910 S. Michigan Avenue, Chicago, or any of its branch offices.

The Link-Belt Company, 910 S. Michigan Ave., Chicago, Ill., recently published an illustrated and very attractive 24-page book covering their Traveling Water Screens. This publication will be sent to anyone interested in the effective and economical screening of condensing water.

Surface condensers are easily clogged up by trash contained in the water supply, and very hard to clean. Clogged condenser tubes mean reduced efficiency of operation and other disadvantages that can be forestalled by the use of traveling screens. This interesting subject is covered fully.

The Nordberg Manufacturing Company, designers and builders of steam and oil engines, mine hoists and air compressors at Milwaukee, Wisconsin, has just completed an extension of their main machine shop and bays. The new addition which is 200 ft. by 180 ft. will facilitate the erection of large engines and hoists, such as the 2000 B. H. P. Diesel oil engine and several large hoists now on order. One of the latter, known as the Mitsue Hoist in Japan, will be the largest hoist ever exported. The others are for the Arizona mining field. Prior to the erection of the new addition, large castings, after being machined, were placed on the erecting floor. This handicapped the erectors by limiting the available space for erecting purposes. Under the new arrangement, the machined castings will be placed in the new addition until wanted on the erecting floor. A new addition to the office building is also being rushed to completion. It will provide large private offices and more space for the drafting room.

Practically every actor in the Industrial Romance of the Twentieth Century has played alongside that star performer Her-

cules (Red-Strand) Wire Rope. But few have any idea of how many different roles Hercules fills. Workmen the world over know only one part of the Hercules story. They know the modern giant as they come in contact with him in their daily work. But they have never seen him on the job in the many lines of industry foreign to their own. And they do not know about his early life—where he is made and how.

To tell the full story of Hercules is the purpose of a four-reel motion picture produced for the A. Leschen & Sons Rope Co. by the Rothacker Film Mfg. Co. of Chicago.

This movie has an interesting career ahead of it. From city to city it will travel, attending conventions of engineers, contractors, manufacturers, etc. It will make the rounds of technical schools in order that the engineers of the future may leave school with a thorough comprehension of what a versatile worker Hercules really is. It will tour the country, visiting the workmen in oil fields, lumber camps, mining towns, manufacturing plants and industrial centers. Thus workers in one branch of industry may see how Hercules labors in other parts of the country.

One print of this film will establish permanent residence at the Leschen headquarters in St. Louis. The Leschen sales department has fitted up a small movie "theatre" so that whenever a prospective customer calls he may see a demonstration of Hercules actually on the job.

Probably the most interesting part of this film is that showing Aerial Wire Rope Tramways. In addition to handling of coal in West Virginia, there are also scenes showing the transportation of gold ore in California and cement rock in Illinois. These pictures not only show the complete operation of these carrying systems, but also the rugged country over which they operate.

Among the miscellaneous views are quarry scenes, ocean dredging near New York, gold dredging in California, stump pulling in Minnesota and shipbuilding at Baltimore.

The beauty of some of these scenes is beyond description. One motion picture trade paper says that the Hercules film is the most beautiful practical picture thus far produced.

Dr. H. K. Porter, Directing Mine Car Engineer of the Hyatt Roller Bearing Company, has appointed Mr. L. A. Shea to represent this company in the Central States Territory, with headquarters at 2516 Warren Street, St. Louis, Missouri. Mr. Shea will work with the mine car manufacturers and mine operators in the surrounding territory.



A man stood watching a steam shovel at work. With a clatter and a roar the shovel bit into the steep bank, closed in a cartload of earth and dumped it on a waiting flat car.

"It makes me wild," said the man to the foreman, "to see that monster taking the bread out of good men's mouths. Look at it. Why it's filling up those wagons faster than a hundred men with picks and shovels could do it."

The foreman shook his head and answered:

"See here, mister, if it would be better to employ a hundred men with picks and shovels on this job, wouldn't it be better still, by your way of thinking, to employ a thousand men with forks and tablespoons?"

Along this same line in the *Wall Street Journal* we find an article on how the original cotton mill employees tried to prevent the invention of improved spindles. We quote in full:

"Cotton mill employees, along with other organized unions, do their worst to limit output per man and machine. The idea is that more work will be the result. History is full of proofs to the contrary. For instance: In earlier days a barber named 'Dick' Arkwright, searching for a night's lodging, in Lancashire, stumbled into a cotton spinner's hovel. There he found the man—James Hargreave—working secretly by night on a wheel that would make eight threads at the same time. He worked secretly because the village men had raided his hovel and broken up his first machine. Spinning and weaving was a cottage industry with hand power, and barely supported the workers; they did not propose to tolerate a machine that would do the work of eight men and take the bread from their mouths, there-

fore they mobbed him. Arkwright had an inventive mind. He quickly improved the machine so as to make a stronger and better thread, but was obliged to keep his machine guarded. Then Watts invented the steam engine and Arkwright established a factory with improved spindles operated by steam instead of manpower. From their wretched hovels the workmen were brought under one factory roof, and the principles of industrial economy taught by Smith were put into effect. Now, the civilized world is cheaply clothed, through the work of 6,000,000 people in the production, manufacture and distribution of cotton. Their expansion came because of Hargreave's eight-spindle jenny, which workingmen destroyed in order to make work."

Just what the next five years will mean to the business world is a matter of great concern to all those interested in the subject. It is with a great deal of pleasure that we quote from the statement of Irving T. Bush, president of the Bush Terminal Company, which says:

"This country has passed through five years of unexampled prosperity. There is nothing to be gained by getting blue, because business cannot be forever on the upswing. If we continue to 'endlessly boost' the prices of everything that goes into a manufactured product, the time will be reached when others will undersell us. Labor has the most to lose by the loss of our foreign markets.

"When business is on the upswing there is no danger in being optimistic. When business is on the downswing it is unwise to be pessimistic, for pessimism breeds discouragement, and loss of courage is the father of failure. Restrained common sense is good at all times. It is absolutely essential on the downswing.

"A generation or so ago our business affairs were local to this side of the Atlantic. Today they are international, and if we are to continue to endlessly boost the prices of everything that goes into a manufactured product, the time will soon be reached when other nations will undersell us in the markets of the world. The preservation of our foreign markets is, if anything, more important to labor than it is to the owners of industry, and the important fact to everyone, labor included, is not how many dollars are received at the end of the week, but what the contents of the pay envelope or the proceeds of the salary check will buy in the way of comfort and happiness.

"It is far better to keep the cost of comfort and happiness on a basis where it can be purchased in this country for no more than it can be bought abroad, for if we do not do this other nations will undersell us in foreign markets and both the labor and capital of this country will lose that part of their job which is represented by producing manufactured goods which are sold by us to the people of other countries.

"Our blessings have been recounted so often that everybody should know them by heart, but when a man feels blue about the future of this country it is wise to sit down and count them over again."

Perhaps no strike in the history of the country has received more analysis and attention than has the steel strike. Charles Piez, president of the *Link-Belt Company*, formerly director of the Emergency Fleet Corporation, has written a report which is interesting. Mr. Piez says:

"In inquiring into the steel strike, would it not be wise to measure its purpose by the character of its leaders? William Z. Foster, one of the two leaders, is an avowed syndicalist, who has publicly announced that 'the wage system is the most brazen and gigantic robbery ever perpetrated since the world began.' John Fitzpatrick, the other leader, is a man who was violently opposed to the passage of any workmen's compensation legislation in Illinois. He has in the ten years that I have known him, never to my knowledge advanced, or even advocated, any constructive piece of legislation, and he has held his position with the Chicago Federation, because he is honest and because he is a skilled labor politician. John Fitzpatrick hasn't the slightest

idea of the problems of industry, he can't conceive of overhead expense as anything more than graft, and lacks all knowledge of the problems of production, distribution, and the sale of the products of industry. His horizon begins and ends with the wrongs that labor has suffered, and he usually refers to wrongs that wise legislation and a changed relationship have remedied years ago.

"That the commission succumbed to the spell of Mr. Fitzpatrick's personality is a tribute to Mr. Fitzpatrick's dramatic powers, but hardly to his sincerity, or to the justice of his cause.

"To Foster and Fitzpatrick the steel industry presented an opportunity for organization, not for a righting of industrial wrongs. It was the great labor prize of the industrial field, and to succeed in organizing the Steel Corporation, would bring to the leaders the broadest recognition and the highest reward the labor world had to offer.

"The real or imaginary wrongs of the workers played not the slightest part in the decision to organize the steel industry.

"It was the citadel of the open shop that was the subject of attack, it was the last barrier against complete and final unionization of American industry, against which Foster and Fitzpatrick combined their wits and their resources.

"And it is to the everlasting credit of Judge Gary that he successfully resisted this attack, for it is to the interest of the public that the principle of the open shop must be sustained."

While in Washington recently, J. G. Stanley, attorney of Denver, gave out an interview in which he predicted unprecedented development of the west's oil resources during the coming year, as an effect of the leasing act adopted by Congress last February. The *Washington Post* quotes him as follows:

"Exploration of the public lands of the west for oil and gas has been greatly stimulated by the act of Congress passed last February and generally known as the leasing act. We look for an unprecedented activity in the development of the oil resources of the west during the coming year. Those interested in this legislation have been watching with keen interest its effect upon the development of our vast area of supposedly valuable oil lands. While the bill was pending in Congress, and even after its passage, many were disposed to doubt its wis-

dom, because it embodies many features of a paternalistic nature. It provides for a rigid control by the federal government of all operations to be conducted upon the public lands by private capital. It exacts in behalf of the United States a very substantial royalty on all oil and gas produced, and it confers upon the Department of the Interior a maximum of power and a minimum of restraint in its interpretation and administration. Many believed therefore that this legislation would result in a retarding if not a complete stifling of all development.

"But day by day we are coming to a better understanding of the wisdom of the act and to a realization of its beneficent effect when fairly administered. We are thoroughly convinced that every possible effort is being exerted by the Interior Department to give it a businesslike interpretation and to render every possible assistance to citizens of the United States who are honestly anxious to engage in prospect and exploration work. The attitude of the department seems to be wholeheartedly consistent with the spirit and purpose of the act, which is the development of the oil and gas resources of the United States.

"When it is realized what a tremendous new burden has been imposed upon that department of the government in the way of administering millions of acres of public lands potentially valuable for oil and gas, we of the west are surprised at the progress made in perfecting the organization necessary for handling the many thousands of applications already filed under the provisions of the act. I understand that more than 5,000 applications have been filed by citizens of the United States requesting an opportunity to prospect for oil and gas upon so-called 'wildcat' or unproved lands. This means that more than 12,000,000 acres of our western lands will be prospected for oil within the coming year. We therefore look forward to an extensive development of our oil lands and a period of great prosperity as a result."

The last session of Congress considered and passed a bill for a national budget, which the President vetoed. The business men of the nation have been greatly in favor of a budget system in running the United States Government.

The New York Sun recently requested a large number of leading busi-

ness men in various sections of the country to present their views upon phases of governmental administration and legislation which bears especially upon American business, and has published a tabulated statement summarizing these views.

The survey shows that there is much favor in the repeal of the excess profits tax and that the Esch-Cummins Railroad Act meets with approval. The survey demonstrates as follows:

"1. American business men are unanimously and enthusiastically in favor of the establishment of a budget system to guide the appropriations and expenditures of the government.

"2. Business men are unanimously in favor of repealing excess profits taxation. Many would substitute for it a system of taxing commodity sales.

"3. Business men in general approve of the Esch-Cummins railroad act, regarding it as fair both to labor and the general public. They feel that whatever defects it may have can be easily remedied by amendment, and they look forward to improved business conditions under private operation of the roads.

"4. Business men are startlingly unanimous in their strongly expressed conviction that the executive heads of the various governmental departments should no longer be selected for political reasons; that salaries sufficient to attract the most highly expert business ability should be paid, and that governmental wastefulness be eliminated by the introduction of business principles.

"5. Business men cherish no hope that 'the high cost of living' can be reduced by any action on the part of the government. They believe that relief must come only through the natural operation of the laws of supply and demand.

"6. Although business men unanimously express themselves as favoring the development of the American merchant marine, a majority of those replying stated that their individual concerns were not interested in foreign trade. An apparent failure to appreciate how closely the success of an American mercantile marine is bound up with the nature and extent of American governmental support abroad to commerce was manifest. Those more familiar with the situation advocated the establishment of capable governmental agencies in all foreign ports, branches of American banks in foreign countries and the release of American concerns doing busi-

ness abroad from excess profits taxation and income taxes on foreign business.

"7. A majority of the business men state that their businesses need no high protective tariff. None seems concerned about tariff matters, as they stand.

"8. None of the business men replying to the questionnaire demanded the repeal of existing 'labor legislation,' and, although there was evident a general hope that the country may gain freedom from strikes so that business may go ahead, there were few who displayed bitter feeling against labor union management.

"9. Industrial production can best be served by the government, the general sentiment ran, if the government will refrain from meddling with the subject. Production will be increased, the belief was, as the demand for merchandise increased."

The old slogan, "*it pays to advertise*," needs very little to bolster it, but as an item of interest we quote the following from William H. Rankin, head of the Chicago advertising agency which bears his name:

"The only reason trade papers are employed by the Rankin agency is because they pay the advertiser, and help to insure the success of other classes of advertising.

"In 1908 we spent \$18,000 in business papers. In 1910 the amount was \$35,000; by 1916 it had increased to \$75,000, and this year we have already o.k'd orders for space in trade papers to cost \$160,000. The rate of increase has been much larger than that of our business with other classes of advertising mediums.

"The main fault is that the trade papers do not advertise themselves enough. Many manufacturers are not sold on trade publications because they are not acquainted with their possibilities and that the story of business paper advertising is told too seldom to agency men.

"The first advertising of the manufacturer is invariably in trade papers.

"After this advertising has increased sales and profits, the manufacturer may be able to use other classes of mediums—but the trade papers come first.

"Advertising of this character is almost universally successful.

and explaining to them exactly the situation that the company finds itself in. George P. Hummer, president of the West Michigan Furniture Company at Holland, Michigan, in a talk to his men, said:

"It is to the best interest of every workman to join hands with the factory management in securing the very highest output so as to enable the company to fill its orders and thus secure big earnings for the men, who can then lay a portion of it aside for a 'rainy day.' You must not expect the abundance of business and large earnings to continue. The orgy of high prices and extravagant buying must ultimately stop and conditions again resume a more normal basis. Our company has had cancellations of orders and non-shipping instructions on contracts aggregating a half million dollars. This loss of business will compel the factory to materially slow down production. The attitude of workmen all over the land during the past prosperous year, whereby their efficiency went down as their wages went up because every man knew he could get a job elsewhere if he were discharged, must now be changed. We are now in a period in which men are more plentiful than jobs, and where the most efficient will be retained. The era of lowering prices now coming will mean the inevitable lowering of wages, but the workman himself had it in his own hands to retard the lowering of the wages by increasing his efficiency and speeding up production. Every worker who soldiers or loafers on his job or by careless work destroys material not only damages the concern for which he works but also damages every other loyal and efficient workman in the institution because the ultimate measure of wages is the quantity of the output and the average wage must depend upon the average output. There is a vast amount of work to be done in new building, and rehabilitation of railroads, all of which will require plenty of labor and business will be resumed as soon as the monetary situation clears, and people can be convinced that they can get a dollar's work for a dollar's pay."

Large numbers of employers are taking their employees into their confidence

A great many efforts have been inaugurated to arouse the "unorganized public." The New York Commercial

has an interesting editorial on this subject from which we quote:

"It has taken the general public a long time to realize that the cure for high prices lay within its own hands. The inflated basis on which industry has been placed, particularly since the war, has been due to the willingness of the public to pay the prices demanded. As long as money came in freely in the shape of war profits and higher wages, it had an intoxicating effect upon those who had not previously had surplus funds at their disposal. Hence, there set in an orgy of extravagant expenditure which has been without parallel in the country's history.

"In the course of time this wild exuberance wore itself out, and there has of late been a tendency to regard things more seriously. The idea of saving and thrift has taken more of a hold on the people, besides the realization that their continued spree simply meant further inflation and another increase in the cost of living.

"Finally there came a spirit of organized resistance. Its first public display was in the so-called 'overalls movement,' which did not amount to very much in itself, but which set everyone to thinking, just the same. It set wholesalers to worrying, who believed that the public revolt was something that would grow and would have to be reckoned with, and as soon as the public detected this nervousness it began to use its new-found power more freely. Retailers found that their customers would not accept the higher-priced offerings without question as they had been doing, but either bought lower-priced goods or omitted the purchase entirely. It did not need very much of this sort of thing to act as a warning, and in the great world of trade there are always to be found minds shrewd enough to foresee the trend of events. The Wanamaker price cut had an electric effect throughout the country, and now, just as the business world has adjusted itself to the conditions created by it, there has come another spectacular movement in the reduction in the price of Ford cars.

"In the meantime the textile trade had become nervous to the point of being afraid to go on as it had been doing and started cancelling orders just as freely as it had been placing them a short time before. These cancellations reached a point where the American Woolen Company found it expedient to shut down for the summer. Now come the cotton mills with reductions, but

wholly based upon declines in raw materials, and in neither case in wages, showing that profits heretofore have been excessive.

"Undoubtedly the excess profits tax has had a great deal to do with this inflation. It was in the first place passed along to the public, but in the second it has fed upon itself. The government will be the largest loser by these cuts, showing at once that the theory upon which the excess profits tax was based was absolutely unsound.

"So far as economists can observe, the effect will be a speeding up of production and a return to a more normal basis of thought and expenditure."

That the Bolshevik movement is one of great concern and should be met more forcefully and more openly by the American people is brought out by F. N. Sisson, vice-president of the Guaranty Trust Company of New York, before the Detroit Chapter of the American Institute of Banking:

"All that we and our allies accomplished in the world war was to protect democracy from one form, and only one form, of autocracy—the autocracy of the mailed fist and the junker class. Today we are again facing the dangers of autocracy—the autocracy of the proletariat, which also comes from overseas, where it is applying the torch to the incendiary spot of Europe and which is seeking here to undermine the very foundations of our system of government and free institutions. We are confronted in fact with a third world challenge and we must meet it as courageously and energetically and unitedly as we met the other two. Eternal vigilance is the price of freedom—and of safety.

"This menace is not a figment of the imagination, an incubus conjured up by nervous reaction from war tension. It is a grim, hydra-headed reality that seeks to terrorize where its socialistic sophistry and political or economic heresy fail of their insidious purpose.

"Let us hope that the masses, which include all our so-called classes, will respond to that challenge as the people of Great Britain during the war answered the aerial raids, in violation of the laws of civilized warfare and humanity, by storming the recruiting stations to enlist against the perpetrators of fiendish violence. And it is time for this nation to enlist against the invisible enemies of our form of government who seek to dynamite the Constitution of the United States.

"Let us be on our guard against such schemes as the Plumb plan, which aims at the Russianization of our great transportation system, through turning the railroads over to the railroad brotherhoods under the thin veneer of government ownership.

"What we need in America today is not socialization or nationalization of industry, but common sense industrial co-operation. We must co-ordinate our facilities to distribute all the bountiful resources of nature in this country to the largest possible number of persons for the greatest common good. But we can accomplish that ideal only by developing imagination to see, brains to plan and hands to work, and all functioning in co-operation

"Labor, capital and brains are natural partners, and in America we have rewarded that partnership as no other country has ever rewarded it.

"Co-operation is the only solution of the various economic problems that now beset us."

THE MINING CONGRESS JOURNAL in its October issue carried an editorial on "Silk Shirts and Idleness." The same idea is expressed in another way through W. J. Woolman of Woolman and Company, New York, who says:

"Labor misled by its so-called leaders, has steadfastly schemed to cut down the measure of return to those who pay for a day's work. The bricklayer has his output limited by union rules, and the number of bricks laid is less than a third of what used to be laid a few years ago by good workmen. We have heard of one locality where union rules have cut down the size of the painter's brush in order that the measure of service may be reduced. In a certain foundry a workman was seen to turn out only one large casting whereas two had been his portion for several years. When asked what had caused the slump in his output he replied that he had lately joined the union and the rules of the organization forbade him to turn out more than one casting.

"Should everybody pursue this policy the country would soon become bankrupt. Such labor is not able to act this way and be successful through its own efforts. It keeps employed in spite of such policy. It does not require much thinking to decide that the less there is produced the less there is to be distributed. Labor that limits its output, therefore, is not profiteering on its own

industry but upon the public. Some one else is making up the difference that shirking labor creates. Such a system is wrong and cannot persist and the sooner that labor in general wakes up to this the sooner will this unreasonable policy stop."

Apropos the times and with particular reference to the attitude of labor Financial America has the following interesting comment to make:

"Ever since the United States has become prominent in the manufacturing world we have had labor troubles of greater or less magnitude. Labor, as an offset to capital, has organized and in many instances has built up strong organizations. The public has taken the attitude that labor has the right to organize for its own protection and has also declared the strike as legal. Peaceful picketing is also permissible so that, with the exception of violence, labor has been forced to bend to the new conditions. Capital has met the situation on a new business basis and has conducted its affairs according to circumstances.

"Thus labor and capital have been getting along much better than formerly when capital met labor at every turn with a refusal to grant what it considered unjust demands. This phase of the situation has practically passed and capital, when demands are made by labor, meets the demand by granting them whenever possible. The extra burden of wages or shorter hours has been passed along to the public who have carried them without a murmur for everybody wants to see labor and all individuals get as high pay as possible as well as improved living conditions.

"But in spite of the fact that the public has been generous, labor, in many instances, has taken an entirely selfish attitude and has paid no regard to capital or the public. They have abused the powers resulting from the union and have 'hogged it' whenever possible. In these times when the world is suffering for production and ever increased production labor has limited its output along with limited hours and in many cases refuses to turn out a day's work for a day's pay. A day's work is what a man can turn out in a given number of hours without undue fatigue. That is what labor is not doing. It is turning out just as small amount of work as possible and shows no disposition to change its attitude in a great many cases."

MINING AND PETROLEUM DIGEST

Gold Premium Bill.

The practical unanimity with which newspapers and magazines recognize the seriousness of the gold situation is striking. Hardly less impressive is the fact that nearly every editor appreciates the necessity for stimulating gold production. The *Washington Post*, reviewing the needs of the country which will be brought to the attention of the forthcoming Congress, cites the stimulation of gold production as a vital need.

Press dispatches from San Francisco convey the information that in an effort to secure the passage of the McFadden Bill by the next session of Congress, the gold miners of California are assembling data and arguments to be presented to Congress in December. In this work they are receiving the co-operation of their state bureau of mines. Only 10 per cent of the 500 stamp mills which were in operation in Calaveras county in 1914 are running now and many of the 300 mills in Tuolumne county are flooded. Fletcher Hamilton, state mineralogist, recently stated that California's gold output in three years had fallen two and three-quarter million dollars. Many western newspapers have carried a circular issued by Mr. Hamilton in which he advocated without qualification the passage of the McFadden Bill.

A news item sent out from New York and printed in various publications throughout the country gives an insight into the uneasiness of the nation's bankers over the gold situation. "There was never a time in history when Wall Street was watching the flow of gold closer than at present," the article says. "The Street has agents in all the European capitals ready to cable at a moment's notice the announcement of gold about to be shipped to the United States." The article continues:

"When gold is announced for New York the brokers know that the money rate will drop. The market is so nervous that it instantly responds to every million dollars announced. Last week Kuhn, Loeb & Co., the well known New York bankers, purchased \$4,100,000 in gold in the open market in

London, and ordered the yellow metal to New York on three ships. This makes a total of \$35,000,000 that this firm has bought in London since the first of the year. It is claimed that they have made an immense profit by buying English pounds at the present low rate at which they purchase gold in the London market. When gold is leaving the United States call money goes up in New York. When gold is coming in the rate is down like it has been the present week, when money was 6 and 7 on call."

The *Washington Post* says:

"The gold production of the United States should be increased. It may be only one-half as much this year as it was in 1915, unless stimulated. Congress has as much power to stimulate the production of gold as it has to stimulate the production of cotton or wheat. The production of silver was stimulated during the war, and very properly so. Now, when the gold reserve has a tendency to diminish, it is proper that the government should increase the domestic gold supply, thus relieving the strain and sending into the currents of industry the invigoration of new blood."

Not even a gold producer can be credited with having a more proper appreciation of the indispensability of the precious yellow metal than the banker. Especially should the bankers of Colorado understand the existing situation, for their environment makes it possible for them to consider the question from the standpoint both of the producer and the financier. The following resolution, adopted unanimously by the *Colorado Bankers' Association*, carries great weight:

BANKERS APPROVE GOLD EXCISE BILL.

"At the annual meeting of the Colorado Bankers' Association held in Denver, September 14 and 15, the following resolution was adopted in support of the McFadden Gold Excise and Premium Bill:

"Whereas, The constantly shrinking volume of gold available for monetary purposes is attracting the attention of bankers throughout the country and believing this matter to be one which is of serious import,

and with a view to stimulating the production of new gold within the borders of the United States, we unqualifiedly endorse H. R. No. 13201 of the Congress of the United States, known as the McFadden Bill, and urge its passage. We consider it of the highest importance that the gold mining industry of this country be fostered and encouraged, to the end that a basis for credit and currency be not curtailed and public confidence be maintained in our circulating medium. Therefore, be it

"Resolved, That the Colorado Bankers' Association, in convention assembled, endorse the McFadden Bill and urge our Representatives in Congress to do all in their power to obtain its passage, and that a copy of this resolution be sent to our Representatives in the Senate and in the House."

Space would be wasted if used for printing an account of the stoppage of operations at all mines which have closed on account of the low market value of gold. The following item printed in the *Oatman Mining News*, Oatman, Arizona, is merely a specimen:

"Abnormal cost of labor and supplies has caused the famous Shawmut gold mine to close down, on yesterday, after many years of splendid production. The mine employed in the neighborhood of 200 men, about fifty of these men having families. The mill will operate for another week, and the refining plant will run the balance of the month to make the final cleanup. There is an immense tonnage of excellent ore blocked out which, under normal conditions would pay a fair profit, but which cannot be handled under present conditions."

Australia Assists Producers.

While American mine owners see the water rise in their mines at the same time their bank accounts go down, Australian producers are congratulating themselves upon good business, made good by a premium paid upon production, and upon the advantages they enjoy in this respect over American producers. Along this line the *Mining and Scientific Press* recently commented as follows:

"To the American miner it is almost annoying to read about the premium paid on the gold produced in other countries. Here is the Australian Gold Producers' Association announcing that the total amount distributed among its members on account of the premium 'earned' on gold exported from Australia since March last year is £1,064,646, 'of which the greater share was credited to

the western Australian mines.' 'Earned' it, did they? It was a gift that they owe to a combination of circumstances, and more particularly to the appreciation of our good old dollar with that fine old bird, the American eagle, upon it, whereby it commands a rate of exchange that calls for 110 Australian shillings in lieu of the 84 that formerly sufficed. Pleasantly apart, we envy those Australians; what a bully thing that premium is! It sweetens the life of the gold miner just at a time when he needs, and deserves, a cheerful tonic. We read further that 'an interim dividend on the gold exported from Australia during the first quarter of this year amounted to £237,316.' Whether the pound sterling be worth more or less, that dividend looks good to us. Curiously enough it is due entirely to the fact that the British pound is worth only \$3.50 just now. 'It is an ill wind that blows nobody good.'"

Copper.

The future for copper is bright, despite low exports during the month of August, according to the *Daily Mining and Financial Record*, Denver:

"While only 3,200,000 pounds of copper were sold through the Copper Export Association during the month of August, the future for exports of the red metal is looking brighter. Copper stocks have been stronger in the markets as a result of this more favorable condition. Both Germany and France are going to be heavy buyers in the copper market. Credits are to be extended to several French manufacturers and preliminary steps have been taken for the establishment of German credits in the United States, whereby German manufacturers may secure their copper requirements. Prior to the war Germany was consuming at the rate of 20,000 tons monthly, or 240,000 tons a year, of which the bulk was shipped from the United States. The copper needs of foreign countries are piling up and the large American producers will soon be called upon to fill these needs. A period of great prosperity would seem to be ahead for Utah Copper, Nevada Consolidated, Chino, Anaconda, United Verde Extension and other big red metal producers."

Coal.

A plea that the railroad managers and coal operators be entrusted with the whole duty of solving fuel problems is made by the *Coal Mining Review*, Columbus, O. Other publications have taken this stand. The *Coal Mining Review* asserts that the Inter-

state Commerce Commission does not understand the problems facing the coal industry, and says:

"It is generally admitted the coal shortage throughout the country can be traced directly to the railroad car shortage. It is a transportation problem and not directly a coal production problem. This being true there are two groups of men who can solve the coal shortage—railroad managers and coal operators. But if those two groups of men are to solve this important problem of coal shortage, they should not be hampered by government interference, even through the medium of the Interstate Commerce Commission. The intention of the Interstate Commerce Commission may be the best, but the members of the commission do not understand the problems of the coal industry, nor do they understand the most practical method of moving coal trains in the direction to get the greatest service out of the available railroad equipment. This is evidenced by the congestion of coal trains at certain terminals at tidewater and lake ports recently. Government authorities should adopt a policy of non-interference and issue a general service order for the railroad managers and coal operators to co-operate to solve the coal shortage and make the order to supersede all service orders issued by the Interstate Commerce Commission during the past several months. Give the railroad managers and coal operators a chance to solve the fuel problems of the country.

Miners Live in Luxury.

If you want to see lavish living, the latest and richest styles, opulence and affluence everywhere, you don't have to go to Paris or Monte Carlo or San Francisco or Atlantic City. All you need to do is take a trip to Kentucky, to the mountains where illiteracy, feuds and moonshining hold sway and where coal mining is the only modern industry. So intimates Tom Wallace, correspondent of the Louisville (Ky.) *Courier-Journal*, after visiting the mines at Lynch. When it is known that Mr. Wallace has visited nearly every civilized country, and has seen and written about the revelings of royalty in many climes, the fact that he was so greatly impressed with the luxurious manner of living enjoyed by Kentucky coal miners becomes all the more impressive. "Hotel life de luxe, \$1 cigars and \$18 silk stockings are all in a day's work," Mr. Wallace says.

The United States Coal & Coke Company is digging 6,000 tons of coal a day at Lynch.

It is just now completing a tippie, the largest in the world, also the finest, capable of handling 12,000 tons daily. This is one company's project. It is estimated that the coal now in sight will furnish 10,000 tons a day for 100 years. Just what the coal operators are doing to make certain of an adequate labor supply for these hundred years is described by Mr. Wallace as follows:

"Lynch exists to dig coking coal for shipment to Gary and Joliet to be coked there for the use of the United States Steel Corporation. It does not produce coal for the market. The town of Lynch is considered by many investigators the last word in model mining camps.

"On the day of my arrival there arrived in Lynch a group of representatives of great corporations who had come here as students of the problem of industrial relations to observe conditions and make reports on them. The interests they represented included Standard Oil and the Rockefeller mining enterprises in Colorado. Two of the party came from San Francisco. Lynch is only three years old, but its fame has spread across the continent!

"As the train crawls along the upgrade from Benham toward the headwaters of Looney Creek, the locomotive's labored breath reminds you that you have heard that Lynch is the highest center of population in the Kentucky mountains. The dining room floor of the Lynch Hotel is 1,800 feet above sea level, and from the front porch of the hotel is seen the top of Black Mountain five miles away and 4,100 feet high. Over the crest of the mountain, which does not seem three miles distant, is Wise county, Virginia. To this point almost at the sources of one of the affluents of the Cumberland River the social theories of Judge Gary have brought a striking example of an effort to make the wage earner entirely comfortable while paying him well for his work.

LUXURY FOR THE MINER.

"The Lynch Hotel, which lodges you as comfortably as a good New York hotel, is so large that its reason for existence here is not at first apparent. When you learn that it is not a commercial hotel, but is provided by the company for the comfort and convenience of its miners and other employees, your surprise at its size and equipment increases rather than diminishes. A room with a bath, with a reading light over the bed, with a clothes closet nearly as large as the bathroom upsets your preconceived notions of what a miner expects or gets in even the most modern of model camps.

"It is necessary to go into the lobby and see miners taking their ease at their inn, in big leather chairs, or to go out upon the

front porch, 100 feet long, and see miners taking the afternoon air to realize that the place was built, actually, to house bachelor miners, or others who prefer hotel life to housekeeping. In this hotel a miner may live for \$55 a month, room and meals. In the basement he may patronize a barber shop or find a tailor who will press and repair his clothes. Or he may play billiards.

"Except you haven't a French manicurist," said one of the San Francisco students of industrial relations, "you seem to have everything in this hotel that San Francisco offers or New York provides."

"To call Lynch a camp is to use the term under a broad definition. It will be when completed a model mining town planned with a view to appearances as well as to comfort and convenience for employees and economical operation. The town will be a little more than two miles long, situated in a narrow gorge with heavily forested mountains rising abruptly from each side. The hotel will be the architectural center piece for the town. It stands on the north side of the gorge facing, at a distance of a few hundred feet, a mountain which is a first class arboretum in which maple, oak, pine and spruce predominate. Mr. Billips, division engineer, assures me that at a sacrifice of dollars and cents the company will preserve the timber on that mountain and upon others which form the immediate environment of the town."

\$18 SILK STOCKINGS.

"Between the hotel and the administration offices is the stone department store in which every reasonable or unreasonable demand of a full pocketed miner is met. The building, fixtures and stock would be creditable to any city of 200,000. In Department K, the drug store, there is a mezzanine floor where employees accompanied by women may order their cold drinks or ices at tables. In basement there is a model bakery which produces every kind of cake and pastry a discriminating housekeeper could desire. There is also a model meat store with a cold storage room in which meats can be kept as long as they can be kept in a Chicago packery's storage rooms. In the department devoted to hats for women the display is as attractive as that in a smart New York shop.

"The president of the International Harvester Company, who was here a few days ago, decided to buy his wife a pair of silk stockings from a mine camp store. He thought it would amuse her. He was surprised at the quality of the stockings offered, and at the price, which was \$18.

"Do miners buy \$18 silk stockings for their wives? I asked the store manager.

"They do, and for themselves not infrequently they buy \$1 cigars. Yes, we sell a good many \$1 cigars."

"Next the administration offices and in the same stone building are shower baths with accommodations for 1,500 men. This building stands between the two mine mouths, one of which is on each side of the gorge. The company's power building and machine shops are just beyond the mine mouths. A handsome stone postoffice is under construction by the company. The whole equipment is compact.

HOMES MODERNLY EQUIPPED.

"Miners' houses are along streets which rise like seats in a theater, one higher than another. Every house has running water and electric lights, including a porch light. The rent charged is on a basis of \$2 a month for each room—\$8 a month for a four-room house and 25 cents a month for each electric light, save the porch light, which is free.

"In a model hospital the other side of the hotel miners receive medical and surgical attention when it is necessary to remove them from their homes. A small monthly payment covers all medical and surgical service.

"Lynch now is in the making, but an astonishing proportion of it has been made. When its streets are finished and its temporary structures, such as the shacks of construction crews, have been removed, it will be more than ever the show town of the coal fields, as well as a model camp from the point of view of sanitarian, hygienist or the student of industrial relations, who approves the method here relied upon to solve the labor problem."

Mine Workmen Own Theater.

Are coal mine workmen doing without the little but costly things that make life doubly enjoyable? Not so as you could notice it—at least, you could not notice it in Rock Springs, Wyoming. The *Evening Star*, Washington, D. C., prints the following:

"Lo!

"The poor coal miner.

"He is conducting his own opera house in Rock Springs, Wyo.

"A report for the past month from Perry W. Karg, organizer of the American Federation of Labor, reads in full:

"Employment is steady. Condition of organized labor is good. Coal miners are running their own opera house, with picture shows and vaudeville. We are doing all the work that can be done for the use of the union label."

Interest in Denver Meet.

That the forthcoming convention of the American Mining Congress in Denver will be of special interest to Colorado producers

is a view which has not only been accepted, but also frequently emphasized. Pointing out features of the program which apply directly to Colorado producers, the *Mountain States Mineral Age* says:

"The Mining Association and Chapter have again demonstrated the benefit of organization and the effective way in which the committee on freight rates presented their case to the traffic managers of the railroads at the recent meeting in Denver is another illustration of what co-operative effort will accomplish.

"The organization of Colorado mining men functions through special committees directed by the executive committee and assisted by the secretary. The various committees of the organization are selected from men especially qualified for their particular duties and who can and will devote the necessary time to carry out, as far as possible, the policies of the organization. Back of the committees is the membership, which can always be depended upon to a remarkable degree in backing up any request or recommendation of the organization.

"In the freight rate case the committee kept in close touch with the situation from the time that it was evident that a general increase in freight rates would be made. At every opportunity it was impressed upon the carriers the serious result that would follow the proposed increase. On friendly terms with the carriers, foreign producers. What is the promise for relief? What will Congress do to protect the home producer?

"Another question of vital interest to Colorado producers is a readjustment of interstate freight rates on ores, concentrates and bullion shipped to eastern markets. Rates which were based upon bonanza production of the ores are now prohibitive when only low grade ores are being mined. A general readjustment of interstate rates on mine products must be made, and only through co-operative effort of western shippers can this be attained. What is being done by western shippers to secure united effort in bringing about a readjustment of these rates? Colorado operators want to know.

"The American Mining Congress at the November meeting will take up all these problems. Colorado mining men will be in a position to largely influence the action of the meeting in regard to all these matters. It is up to them to lend their support in every possible way that will lead to the success of the Twenty-third Annual Meeting of the American Mining Congress."

Open-Shop Platform.

There can be no doubt as to the purposes of the open-shop association of Shreveport.

Louisiana. This organization only recently formed has a membership exceeding 900, of whom about 200 are oil producing and drilling companies. The name of the organization is the Shreveport Open Shop Association. The principles of the association have been set out fully and, as printed in the *National Petroleum News*, are as follows:

"To promote the industrial and business interests of Shreveport, Louisiana, and adjoining territory; to establish equitable industrial conditions for employers and employees and the general public; by its teachings and good offices to prevent and avert industrial disturbances; to harmonize difference between employers and employees with justice to all concerned, and to insist in the enforcement of the laws of the land.

"To oppose restriction of output, sympathetic strikes, lock-outs and boycotts and illegal prosecution of individuals; all of which are a menace to the industrial progress of our community and tend to the undermining of constitutional rights;

"To secure for employers and employees the freedom of individual contract in the matter of employment; to insure every one his right to earn a living regardless of his membership or non-membership to any organization;

"To prevent any interference with persons seeking, through honest effort, to work and earn an honest living; to lend its aid and influence to protect every one in his lawful right to conduct his business affairs as he deems proper, so long as he does not encroach on the rights of others."

Wages in Open-Shop Towns.

One of the arguments advanced against the open shop, and generally the main one, is that its proponents are interested mainly in beating down wages. To refute this argument, Franklin O. Thompson, manager of the Southwestern Open Shop Association, Dallas, Texas, has compiled an analysis of wage scales of building mechanics in eighty American and Canadian cities, showing that in nearly every instance the scales in open-shop towns are highest.

"Nor does this high wage scale necessarily mean an excessive building cost," Mr. Thompson writes to the editor of the *Manufacturers' Record*, Baltimore, "for we classify our men, recognizing the fact that all mechanics are not of equal productive ability. We have demonstrated beyond question that construction on an open shop basis is efficient and less costly than when conducted as a closed shop contract."

The wage scale analysis follows.

"**BRICKLAYERS**—Dallas, Wichita Falls, Shreveport and Fort Worth pay \$1.50 per hour, the highest wage paid in the country. Of these all but Fort Worth are open shop cities. Oklahoma City, another open shop city, pays the next highest, or \$1.37½ per hour. Philadelphia and Wilmington pay \$1.30. While 35 cities pay \$1.25 per hour, 17 cities pay \$1.12½, and 10 cities pay \$1 or less. **THERE IS NOT AN OPEN SHOP CITY, SO LISTED, PAYING LESS THAN \$1.25 per hour.**

"**CARPENTERS**—Chicago, Cleveland and Gary pay \$1.25 per hour. Butte, Denver, New York, Omaha, Philadelphia, Salt Lake and Shreveport pay \$1.12½ per hour. Of these cities Butte, Denver, Omaha and Shreveport are open shop cities. San Francisco, a tightly closed city, pays \$1.06¼ per hour. Youngstown pays \$1.15 per hour. While 39 cities pay \$1 per hour and 22 cities pay less than \$1 per hour. **THERE IS NOT AN OPEN SHOP CITY IN THE LATTER CLASS.**

"**CEMENT FINISHERS**—Butte, Chicago, Gary, Newark, Rochester, South Bend, Springfield and St. Paul pay \$1.25 per hour. Of these cities Butte and St. Paul are open shop cities. Albany, Cleveland, Denver, Erie, Oklahoma City, Omaha, New York, Pittsburgh, Salt Lake and San Francisco pay \$1.12½ per hour. Of these cities Denver, Oklahoma City and Omaha are open shop cities, while 21 cities pay \$1 per hour and 26 cities pay less than \$1 per hour.

"**ELECTRICIANS**—Wichita Falls, an open shop city, pays \$1.50, the highest scale in the country. Beaumont, Chicago, El Paso, Detroit, Galveston, Gary, Kansas City, Tulsa and Shreveport pay \$1.25 per hour. Of these cities Beaumont, El Paso, Detroit, Galveston, Tulsa and Shreveport are open shop cities. Denver, New York, Omaha, Philadelphia, Pittsburgh, San Francisco, Salt Lake and Seattle pay \$1.12½ per hour. Of these cities Denver, Omaha and Seattle are open shop cities. Cleveland pays \$1.37½ per hour, while 35 cities pay \$1 and 21 cities pay less than \$1 per hour.

"**STRUCTURAL IRON WORKERS**—Chicago, Cleveland, Fort Wayne, Gary, Indianapolis, Philadelphia, Pittsburgh, Rochester, Shreveport, St. Louis, Wheeling, Winnipeg and Youngstown pay \$1.25 per hour. Of these cities Indianapolis and Shreveport are open shop cities. Denver, an open shop city, pays \$1.15½ per hour. Dallas, El Paso, New York and Portland pay \$1.12½ per hour. Of these cities Dallas and El Paso are open shop cities, while 40 cities pay \$1 and less per hour.

"**LATHERS**—Wichita Falls, an open shop city, pays \$1.50 per hour, the highest paid in

the country. Akron, Chicago, Cleveland, Detroit, Des Moines, Gary, Joliet, Omaha, Philadelphia, Rock Island, Shreveport, Sioux City, Tulsa, Vancouver and Youngstown pay \$1.25 per hour. Of these cities Akron, Detroit, Tulsa, Omaha and Shreveport are open shop cities, while nine cities pay \$1.12½ per hour and 46 cities pay \$1 or less.

"**PAINTERS**—Dallas and Tulsa, both open shop cities, pay the highest scale recorded, \$1.50 per hour, while 38 cities pay from \$1 to \$1.25 per hour and 35 cities pay less than \$1 per hour.

"**PLASTERERS**—Dallas, Oklahoma City, Shreveport, Tulsa and Wichita Falls, all open shop cities, pay the highest scale recorded, \$1.50 per hour, while 54 cities pay from \$1.12½ to \$1.25 per hour and 15 cities pay \$1 or less.

"**PLUMBERS AND STEAM FITTERS**—Sherman, Shreveport and Wichita Falls, all open shop cities, pay the highest scale recorded, \$1.50 per hour. El Paso, an open shop city, pays \$1.37½ per hour. Dallas, Beaumont, Little Rock, Oklahoma City, Chicago, Tulsa, Des Moines, Gary, Joliet, Memphis, Omaha, Providence, San Francisco, Sioux City, St. Louis and Youngstown pay \$1.25 per hour. Of these cities Dallas, Beaumont, Little Rock, Oklahoma City, Tulsa, Omaha and Sioux City are open shop cities."

Japanese-British Oil Pacts.

Control of the petroleum industry in lower California has passed to Great Britain and Japan, according to the following article printed in the *Daily Oil News Report*, Chicago:

"Control of the petroleum industry in lower California has been secured by the British government and Japanese dominates the same industry in the State of Sonora, according to reports printed in Mexican newspapers which combine official and unofficial statements. The Department of Industry and Commerce announces that Alfred Mackenzie, a British subject, has been granted a three-year concession to explore and exploit all oil lands in lower California on government and private land included between Santo Tomas and Punta de Canoas. It is officially declared the British government is backing Mackenzie. A similar concession has been granted a Mexican subject to operate the same kind of concession in Sonora, the territory extending about 24 miles in length and being situated in the Altar district. A Japanese corporation with Japan government funds being the concessionaire, it is said unofficially.

Pulverize Your Own.

Writing under this caption, the editor of *Coal Age* outlines the general use to which pulverized coal will be put in the future and warns coal producers to act in time to prevent the industry of pulverization from being developed by other interests. He writes as follows:

"Announcement has been made that a company is to be formed for the pulverizing of coal and the delivery of the fuel thus pulverized to the cellars of homes. The company proposes to put its energies into developing a market for domestic pulverized coal in and around Kansas City. A capacity of 180 tons a day will be provided at once, and this will be increased to 360 tons in a short time. Steel tanks will be located in the basement of each house, as close to the furnace as possible, and their contents will be doled out to the burner by an electrically driven 'synchronator.'

"Other companies of a similar character will be organized soon in Omaha, Buffalo and Salt Lake City. The coal will be delivered by tank wagons, from which it can be unloaded much in the same way as fuel oil. The success in the west of the sale and delivery of pulverized coal demonstrates clearly that this pulverized fuel is well suited for all kinds of heating purposes and that it can be delivered pulverized without difficulty.

"Are the coal producers going to let this chance to enter into a manufacturing business pass out of their hands? Why should the fuel be prepared anywhere but at the mines? From that point it could be delivered by specially constructed railroad cars or by motor trucks, according to the distance to be traversed. Mines that are making an excessive quantity of slack and the coal from which is not the best kind of boiler fuel could enter this business with assurance of success, if, of course, the pulverized fuel they make is not unduly subject to spontaneous combustion. Especially would it be advantageous to avoid mixing coal and thus producing a product of uncertain quality and one more liable to ignite spontaneously.

"The project is worthy of the serious consideration of coal operators. Why should the making of pulverized coal be allowed to slip away as has the generating of electric power and the manufacture of by-product coke and carborundum? Nowhere can power be obtained cheaper than at the mine, where the poorest kind of fuel can be used advantageously for its generation, either pulverized or by means of automatic stokers, and where the costs of living are lower to the workmen than in cities and where land values for plant and storage are at a low limit.

"Perhaps within ten years houses will be

quite generally fitted to burn coal as dust, for there is no question that this method of combustion, if properly controlled, will give the minimum of smoke and a maximum of efficiency. Is it too much to surmise that the use of such coal may be made obligatory by municipal ordinance? If this is so, it will be a great pity if the work of pulverization is so controlled by non-producers that the producing firms will be unable to enter the business and will then receive from these public-utility fuel pulverizers the same kind of pressure now being brought by present-day public utilities to have the price regulated by federal and state boards. Surely then will be appreciated the advice 'Pulverize your own.'

Believe Coke Ovens Doomed.

Slowly but surely, beehive coke ovens are disappearing, according to the Charleston correspondent of *The Black Diamond*, who writes as follows:

"While there is no way of telling by actual figures to just what extent the discontinuance of the use of beehive coke ovens at many plants is affecting the production of coke in West Virginia, yet slowly but surely such ovens are disappearing, as it becomes recognized that coke making by the old method involves a great waste of valuable by-products.

"The latest company to discard the beehive ovens is the Penn-Mary Coal Company, a subsidiary of the Bethlehem Steel Corporation, and one of the larger companies operating in the northern part of the state. That company has announced that the 467 beehive ovens of the company in the territory between Morgantown and Kingwood will no longer be operated. It is strongly indicated that a large by-products plant may supplant the beehive ovens.

"Commenting upon the discontinuance of the beehive ovens, T. J. Johns, general manager of the Penn-Mary Company, stated a few days ago that 'It is gratifying to us to know that the beehive ovens are going into the discard. Millions have been wasted and the new era of saving all of the chemical value of coal has arrived. The companies also are beginning to see the advisability of placing the by-products plants at the mines rather than at the steel plant.'

"Blue Sky Season Upon Us."

The legislature is in session and the mining industry is in jeopardy. These are not the exact words, but they convey adequately the substance, of an editorial in the *North-west Mining Truth*, Spokane, Wash., which complains bitterly that legislators in protecting their people from dishonest promo-

tion schemes too frequently consider the mine promoter as the arch enemy of mankind. Those familiar with history will realize the following could have been written about many states other than Washington:

"Once more the 'blue-sky' season has rolled around and from now on until the state legislature adjourns the mining business will face the possibility of crack-brained, repressive laws. The primaries are over, and while some ambitious law makers have been left at the post, others will no doubt arise to tilt windmills in protection of the innocent investor.

"We once more reaffirm the position we have always taken upon this question. We are not averse to a law covering all classes of promotion alike, but we are most strenuously opposed to any measure that singles out the mining industry for special attack in the interests of so-called financial leaders who all have their own dull investment axes to grind. We are for a law that will cover dishonest practices to be found in every business, but we are against a law that places all but the mining business upon a 'holier-than-thou' plane.

"It is a subject for congratulation that Senator Pawley, author of the vicious bill introduced in the last legislature, has been left at home by an impressive vote, in spite of the fact that his advertisements throughout the First Senatorial District carried prominent mention of his blue sky intentions. Maybe the result should be construed as notification that the people generally are tired of repressive, interfering laws and are willing to give the state a chance to catch up with the march of prosperity. Mining has done more for the eastern portion of the state than any one other single industry, and will continue to add to its prosperity if given half a chance.

"It is time even now to marshal the forces of sanity against the unthinking demand for such laws as have so nearly destroyed mining activity in Oregon, for instance, and which are meeting with such just condemnation in Arizona and California. Because a few rascals part the innocent from their money is no reason why all connected with mining operations should be placed under a ban. There are plenty of laws to adequately punish dishonesty and the legislature would do well to emphasize the demand that those statutes be scrupulously lived up to.

"We believe that man-to-man discussion of this subject will remove many misconceptions and persuade the local legislators that there is no necessity for special legislation against the mining industry. As a matter of fact, it is clearer at this time than ever before in the history of the state and it be-

comes necessary to scrutinize other lines of promotion endeavor to find flagrant dishonesty in the past two years. The proposed meeting of nominated legislators of both parties with mining men of the city under auspices of the Northwest Mining Association is a move in the right direction and may be the entering wedge to better understanding of an industry that built Spokane in the first place and continues to largely support it in prosperity."

State Feels Oil Shortage.

Some readers may have been lead to think that the United States government had a monopoly of trouble in securing fuel oil, but they are mistaken. The state of California for instance is having trouble as serious in nature, although to less an extent, than is the government of the United States on the western coast. The conversion of heating apparatus in state buildings into coal and wood burning appliances, is said by the *Daily Oil News Report*, Chicago, to be considered:

"The United States navy is not alone in its difficulties on obtaining fuel oil on the Pacific Coast. While attention has been repeatedly drawn to the navy by its seizures of fuel oil from the Shell Company of California, the state of California has been unable to contract for its winter oil supply. State officials and institutions in Sacramento, the state capital, are facing a serious situation, according to W. G. McMillin, state purchasing agent. No oil company, McMillan says, has been willing to enter into a contract or give guarantees that 200,000 barrels of oil needed by the state will be supplied. If oil cannot be obtained in the usual manner, it may be found necessary to convert heating apparatus in state buildings to burn wood or coal. McMillan said oil companies have informed him that the federal government is using 480,000 barrels of fuel oil on the Pacific Coast every month. The companies said the shortage is due to the great Federal consumption."

WHERE IMMIGRANTS GO

During the first six months of 1920, 430,001 foreigners came to America and 288,315 left, according to figures of the Bureau of Immigration. Of those who arrived 1,515 became iron and steel workers, 412 metal workers other than iron and steel, and 3,891 became miners. Of those who left the country 174 were iron and steel workers, 106 metal workers and 5,279 were miners.



By C. H. FARRELL.

The transportation situation throughout the country is steadily improving, and the key to the whole situation at the present time—coal—is beginning to be the real bright spot. We began the year 1919 with a small supply of coal brought over from the previous year, but this supply, and more, was consumed during 1919 in addition to all coal produced during that year because of various strikes both in the coal mines and on the railroads. Consequently the year 1920 began with a very low supply on hand.

Shortly after the termination of federal control the Interstate Commerce Commission began, under its new powers conferred by the Transportation Act of 1920, to try to get into the coal trade practically all coal cars. Various orders were issued from time to time and because of the use of open-top equipment for the shipment of other commodities several thousand cars were never assigned to the coal trade. Subsequently, through the issuance of numerous permits for the transportation of freight of an emergency character, the supply for the coal trade was further depleted, and while production during 1920 was greatly increased and reached about the average for the last four years, nevertheless it appeared that the necessary amount of coal could not be gotten to the lakes before navigation closed unless even more drastic steps were taken.

The commission, in October, issued its service orders Nos. 20 and 21 for the purpose of forcing the necessary movement to the lakes and getting the situation back to normal. The goal for production was set at 12,000,000 tons per week, and figures indicate at the present time that this figure is being substantially exceeded.

The new orders of the commission, effective October 15, have increased the territory, and all railroads east of the eastern boundary of the states of Montana, Wyoming, Colorado and New Mexico are now required to furnish coal cars to coal mines in preference to any other use. Heretofore the

roads east of the Mississippi River have been the only ones affected. The commission also cancelled all outstanding permits for the use of coal cars for transporting other freight and has indicated that it will issue such permits in the future only when public necessity seems to demand it. The order also contemplates preference to public utilities when it is shown that such preference is essential.

In addition to completing the 24,000,000 tons required at the lakes before navigation



C. H. FARRELL.

closes, the commission's program also contemplates the movement of 2,100 cars daily for domestic use in Indiana, Ohio, Michigan, eastern Kentucky, eastern Tennessee, western Pennsylvania and West Virginia, and attention is also being given to the needs of domestic consumers in other states.

Not only is substantial progress being made in the handling of coal, but statistics available also show that the carriers are originating more revenue freight at the

present time than they did in the corresponding weeks of 1918 and 1919. Deferred car requisitions which indicate the car shortage show that a big improvement is being made and that the car shortage at the present time is very close to normal. There is also a substantial improvement in the percentage of cars on home lines. On October 1 the percentage was 30, as compared with 21.9 per cent when federal control ceased.

Taken altogether the situation shows marked improvement over July of this year, and it is confidently believed that with the coal situation cleared up and the grain crop under way the carriers will again be operating at normal speed.

PERSONALS

John Dern, of Salt Lake City, Utah, is in Washington on a visit to his daughter, Mrs. J. C. Dick.

A. Scott Thompson, of Miami, Oklahoma, was in Washington several days during October on matters before the Internal Revenue Department.

J. C. Dick, chief of the Natural Resources Subdivision, Internal Revenue Service, is in Denver to attend the annual convention of the American Mining Congress.

Wade Kurtz, of Kansas City, Mo., has returned home after spending several days at the capital.

L. C. Church, formerly of Joplin, Mo., now of Victoria, B. C., is at the Shoreham and attending to tax matters for his company.

J. F. Callbreath, secretary of the American Mining Congress, left Washington headquarters October 24 for Denver, where he will remain until after the annual meeting. November 15-19.

Carl Scholz, vice president of the Raleigh-Wyoming Coal Co., the big concern developing 18,000 acres on the Chesapeake & Ohio and the Virginian railroads, will take a vacation next month by going to the convention of the American Mining Congress in Denver, and then on to California for a week or two.

Charles Mitke, chairman of the Committee on Standardization of Metal Mines of the American Mining Congress, made an interesting talk before the New Mexico Chapter, on October 4, on the work of his committee and of the organization as a whole. Mr. Mitke is at Tyrone, New Mexico, in consultation with the engineers of the Burro Mountain Copper Co. in the standardizing of stopes at their Tyrone properties.

Dr. Henry Mace Payne, of Andrade & Eyre, New York City, was in Washington during the month on matters before the Interstate Commerce Commission. Dr. Payne is also chairman of the Coal Export Committee of the American Mining Congress.

Harry L. Day, director of the American Mining Congress, has returned to his home in Wallace, Idaho, after a short trip to Washington, New York and eastern points.

Axel P. Ramstedt, comptroller of the Hercules Mining Company, Wallace, Idaho, was in Washington on tax matters during the month.

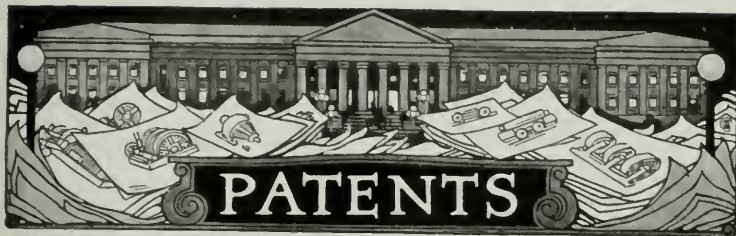
Bulkeley Wells, president of the American Mining Congress, left New York early in October for his home in Denver. After a short vacation and hunting trip he will be at Denver headquarters until after the annual convention.

Dorsey A. Lyons, in charge of mine experiment work for the Bureau of Mines, will attend the annual convention of the American Mining Congress.

Dr. F. G. Cottrell, director of the United States Bureau of Mines, will address the twenty-third annual convention of the American Mining Congress on the work of the bureau. Dr. Cottrell will leave Washington for Denver about November 10.

MEETING ON EDUCATION IN COAL MINING COMMUNITIES

The U. S. Bureau of Education has called a conference in Pittsburgh on November 26-27 of coal operators and school authorities for promoting public school instruction of benefit to students in coal mining communities, including employed students. All coal operators are invited to send representatives. T. T. Reed, of the Bureau of Mines, will speak on "The Interest of the Coal Company in the Education of the Community."



CONDUCTED BY JOHN BOYLE, JR.

1,351,953—*Neils D. Lerin*, Columbus, Ohio. Assigned to Jeffrey Mfg. Co.

LOADING MACHINE.

The extremely limited vertical dimensions of the working places, and the necessity for placing roof supporting timbers relatively close to the working faces, present difficulties to the adaptation of mechanical loaders to use in coal mines. One of the greatest difficulties is to so support the conveyor element of the machine that coal may at all times be delivered to, and distributed along, a pit car placed upon the mine track in the



JOHN BOYLE, JR.

rear of the machine, while the receiving end of the conveyor may be made available to receive coal at any part of the working face. The machine comprises, primarily a conveyor member of the well known chain and scraper type, having a horizontal receiving part adapted to rest upon the floor of the mine adjacent the working face, an upwardly and rearwardly inclined central part and a horizontal part adapted to extend above the conveniently placed car to deliver the material thereto, and supporting members adapted to facilitate positioning the said conveyor member for use, and for moving it from place to place. The machine constitutes a self-contained structure which, when used in conjunction with the auxiliary parts provided therefor, may be easily handled by the miner and his helper and moved about

the mine and so positioned that its receiving portion will be convenient to material at any part of the working face, and its delivery end above the car which is to be loaded.

1,352,072—*F. J. Lyster*, Broken Hill, New South Wales, Australia. Assigned to Minerals Separation North American Corporation.

FLOTATION APPARATUS specially applicable where a centrifugal pump is employed for aerating the pulp. Where a number of flotation vessels and centrifugal pumps are arranged in series each pump withdraws the material from the bottom of one vessel, agitates it and delivers it to the next flotation vessel. Means are provided such as an inlet pipe, for feeding in the required amount of frothing agent, as well as the necessary amount of air into a suction pipe communicating with each pump. It has been usual to control the delivery of the pump by adjusting the admission of air to it. The object of the present invention is to control automatically the delivery of the pump by controlling automatically the quantity of air admitted to it, according to the level of the liquid in the flotation vessel. Thus any slight variation in the flow between any two vessels may be adjusted in the running of the plant itself and the liquid in the various vessels maintained at a constant level.

The illustrated adaptation of the present invention comprises a float arranged in a separating vessel, a cock on the air intake pipe of the apparatus and a connection between the float and cock, so that the air supply is reduced as the level of liquid in the separating vessel falls.

1,352,169—*A. Ball*, Clearmont, N. H. Assigned to Jeffrey Mfg. Co.

MIXING MACHINE provided with improved means for feeding and guiding a mining

machine while it is performing the cutting operation. In order to hold the cutter chain and cutter bar in the desired relation against the work as the machine is fed along, guiding means are provided, the same consisting of one or more ropes, cables or other flexible guiding members, kept under tension and so associated with the machine that the cutter bar, as it travels, is held up to the work without the necessary use of rails or other like guiding support. In the illustrated form of the invention there is provided for this purpose flexible guiding means, in the form of a wire rope or cable presenting two portions or lengths, each connected to a fixed support, one on the advancing side of the machine and the other on the receiving side thereof, and one connected to the machine relatively adjacent its wall or cutting end and the other relatively near the opposite end thereof.

1,353,422—*E. C. Robinson*, Douglas, Ariz. Fifty-five one hundredths assigned to Phelps-Dodge Corporation.

RABBLE. The object of the present invention is to provide means for so seating the rabble arm in the rabble shaft that a bearing of maximum length will be afforded the arm and at the same time a boss of minimum length only need be provided upon the outer shaft of the rabble. The advantage of the invention is that the inner end of the arm as a whole is given a bearing of maximum length in the rabble shaft, although the boss in itself is very short. As a result the rabble arm is enabled to better resist the stresses to which it is subjected in operating upon the ore distributed upon the hearths of the furnace and there is little or no likelihood of the bosses being burned out.

1,354,031—*B. H. Dosenbach*, Butte, Montana.

FLOTATION APPARATUS designed for use with that process of flotation wherein the preliminary mixing of oil with pulp is dispensed with and where the oil or modifying agent is introduced into the pulp as a gas or vapor in admixture with air; means are provided for controlling the proportion of air and modifying agent and also the pressure of the mixture; the mixture is introduced under regulated pressure into the ore pulp.

1,351,835—*H. L. Charles*, Butte, Montana.
METHOD OF FEEDING ORES into a reverberatory furnace consisting in dropping the

same upon the hearth in such a manner as to provide piles or mounds at frequent intervals.

1,351,945—*John R. Dulany*, Pittsburgh, Pa.
METHOD OF CLEANING OIL WELLS consisting in introducing water into the well, adding a dry compound of alkali metal hydrate and aluminum to the water; permitting the solution thus formed to remain in the well for a period sufficient for the heat generated by the mixture to soften the oil and wax adhering to the sides of the well and then pumping it out.

1,353,451—*Walter G. Burns*, Fort Wayne, Ind.

DRIVING MECHANISM FOR ORE CONCENTRATORS.

1,352,636—*Theodore Stretton*, Cardiff, Wales, and *John W. Jones*, Cannock, England. Assigned to Hasland & Stretton, Ltd.
MINER'S ELECTRIC LAMP.

1,352,653—*Herbet V. Brown*, Cherrytree Borough, Pa.
MINE-HAUL.

1,352,727—*George R. Delanater*, Steelton, Pa.

MINERAL WASHING APPARATUS.

1,352,882—*David H. Donegan*, Saw Pit, Colo.

HYDRAULIC CLASSIFIER.

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MIXING MACHINE adapted to cut the kerf at or near the mine floor, having an improved mechanism for adjusting the cutter arm to different heights and inclinations and improved power mechanism for driving the track wheels.

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ORE STAMP MILLS.

1,353,995—*William E. Greenawalt*, Denver, Colo.

ELECTROLYTIC APPARATUS.

Riding By Our Factory—

On a Pennsylvania train approaching New York, a Hyatt engineer heard this part of the conversation of two mining men as they passed the big Hyatt factory just outside of Newark:

"The Hyatt Company has no competition as far as modern bearings are concerned. There is only one bearing besides the Hyatt bearing and that's the old plain bearing.

"In our section of the country it is a well-recognized fact that if a mine has Hyatt equipped cars it is an up-to-date mine—if it hasn't them it's lagging behind."

This friend of the Hyatt Company was probably unconscious of the fact that he echoed the sentiments of not only the men in his section of the country but of all progressive mining men. The vote of thanks which we owe him is hereby publicly extended to him.

Moral: Be sure that all of your cars, both old and new, are equipped with Hyatt Roller Bearings or your friends will gain the wrong impression as to the worth of your mine.

**HYATT ROLLER BEARING COMPANY
NEW YORK, N. Y.**



YOU CAN DEPEND ON “AERO BRAND” CYANIDE

Prompt Shipments—In the four years that this product has been on the market not a single customer has been disappointed on deliveries.

Efficiency—Four years of use by the largest mills in the United States, Mexico and Canada, on the widest variety of ores, has shown highest extraction efficiencies.

Economy—Low cost, ease of handling this flaky product, and the reduced time required for settling and filtering solutions, have saved users of “Aero Brand” Cyanide hundreds of thousands of dollars.

Contracts now being written for next year.

American Cyanamid Company,
511 Fifth Avenue, - - - New York

THE MINING CONGRESS JOURNAL

DECEMBER

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6726 KOPPERS COKE OVENS

IN OPERATION OR UNDER CONSTRUCTION
IN THE UNITED STATES AND CANADA
HAVE AN AGGREGATE ANNUAL
CARBONIZING CAPACITY OF MORE THAN

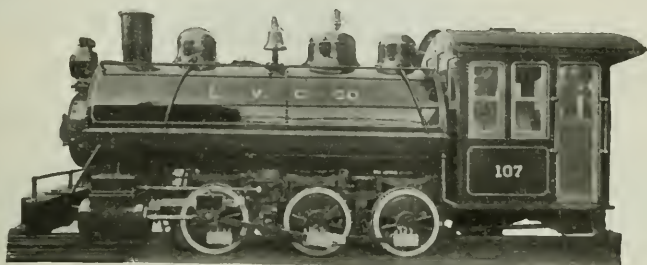
43,000,000 NET TONS OF COAL

Owner or Operator	Location	Number of Ovens
United States Steel Corporation	Joliet, Ill.	280
Illinois Steel Company	Gary, Ind.	700
Illinois Steel Company	Fairfield, Ala.	431
Tennessee Coal, Iron & B. R. Company	Duluth, Minn.	90
Minnesota Steel Company	Clairton, Pa.	768
Carnegie Steel Company	Cleveland, O.	180
American Steel & Wire Company	Lorain, O.	208
National Tube Company	Woodward, Ala.	170
Woodward Iron Company	Joliet, Ill.	35
Coal Products Mfg. Company	Sault Ste. Marie, Ont.	110
Algoma Steel Corporation, Ltd.	Indiana Harbor, Ind.	130
Inland Steel Company	Youngstown, O.	143
Republic Iron & Steel Company	Sparrows Point, Md.	360
Bethlehem Steel Company	South Bethlehem, Pa.	421
Bethlehem Steel Company	Steelton, Pa.	60
Laclede Gas Light Company	St. Louis, Mo.	56
Cambridge Steel Company	Johnstown, Pa.	92
Toledo Furnace Company	Toledo, O.	91
Youngstown Sheet & Tube Company	Youngstown, O.	306
LaBelle Iron Works	Follansbee, W. Va.	91
United Furnace Company	Canton, O.	47
River Furnace Company	Cleveland, O.	201
Brier Hill Steel Company	Youngstown, O.	84
Gulf States Steel Company	Gadsden, Ala.	37
Seaboard By-Product Coke Company	Jersey City, N. J.	165
Minnesota By-Product Coke Company	St. Paul, Minn.	65
Colorado Fuel & Iron Company	Pueblo, Colo.	120
Indiana Coke & Gas Company	Terre Haute, Ind.	30
Dominion Iron & Steel Company, Ltd.	Sydney, N. S.	180
Providence Gas Company	Providence, R. I.	40
Jones & Laughlin Steel Company	Pittsburgh, Pa.	300
Rainey-Wood Coke Company	Swedeland, Pa.	110
Birmingham Coke & By-Products Company	Birmingham, Ala.	50
Donner Union Coke Corporation	Buffalo, N. Y.	150
Domestic Coke Corporation	Fairmont, W. Va.	60
Pittsburgh Crucible Steel Company	Midland, Pa.	100
Chicago By-Product Coke Company	Chicago, Ill.	100
Milwaukee Coke & Gas Company	Milwaukee, Wis.	150

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Accessibility to all parts a feature of VULCAN Locomotives

There is a distinct advantage in having a locomotive which is so built that nearly all of the ordinary adjustments and repairs can be made without the necessity of maintaining an expensively equipped shop or sending it away for comparatively small changes or repairs.

This accessibility to working parts is one of the advantages built into VULCAN Locomotives and is one of the reasons for their low maintenance records as well as for the number of repeat-orders from firms who have use for more than one locomotive.

Catalogs and detailed information on request. If you will describe your transportation problem, we can assist you in determining the most suitable type of locomotive

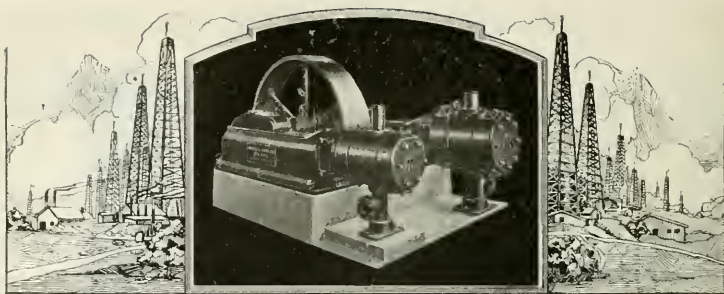
Three of the VULCAN Locomotives built for the Lehigh Valley Coal Co. Note the accessibility to driving mechanism

Vulcan Iron Works

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1736 Main Street, Wilkes-Barre, Pa.





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Each day witnesses the installation of new and better machinery for removing gasoline from casing-head and natural gas—and experienced operators are specifying Ingersoll-Rand equipment for the work.

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For instance, the "Imperial" XRB Compressors. These belt-driven units are especially designed for gasoline extraction work. Valves are the most improved Ingersoll-Rand type, having liberal port areas. The enclosed construction is dirt-proof and permits efficient splash lubrication for the running gear. Cylinders are oiled with force-feed lubrication.

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Bulletin 3218 tells all about Ingersoll-Rand Gasoline Extraction Equipment
Send for your copy

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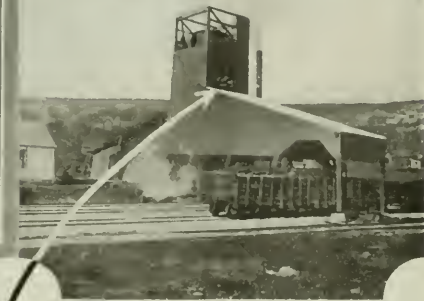
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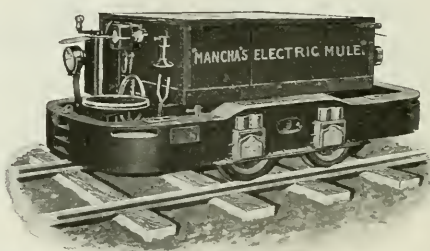
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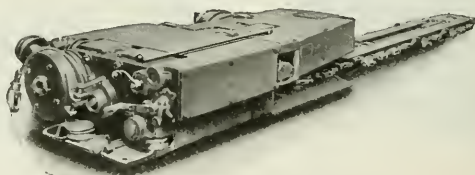
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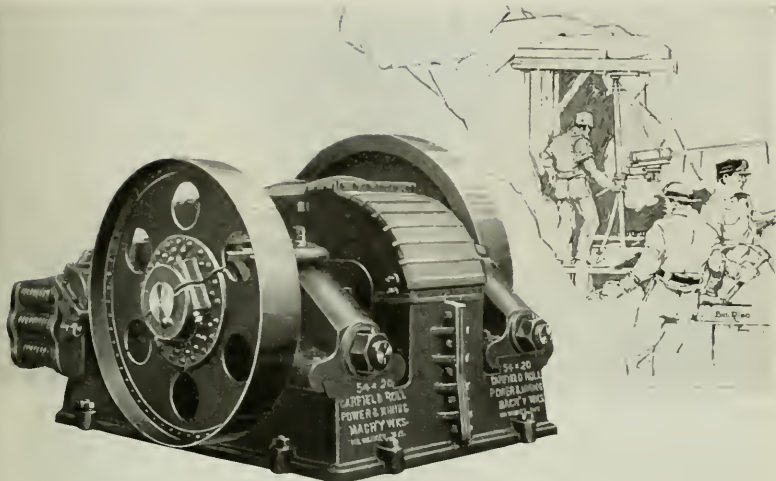


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It is more than six inches lower than the
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Book 203-M Tells About It

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Atlas Storage Battery Locomotives are characterized by many exclusive improvements. These advantageous features, tested in hard service, have proved themselves invaluable. So Atlas Locomotives are all that good locomotives should be. The battery trays are removable. High-grade roller bearings are mounted in specially designed journal boxes, arranged for generous lubrication, easy



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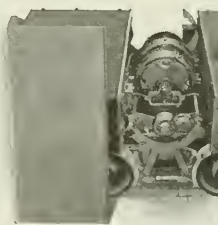
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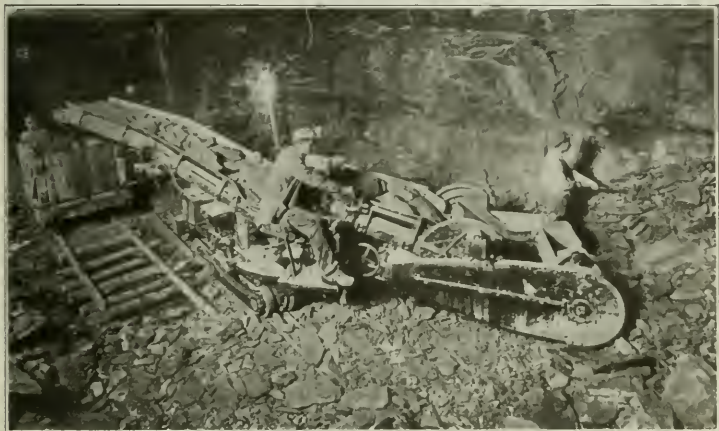
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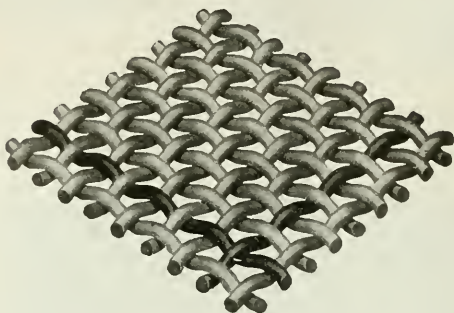
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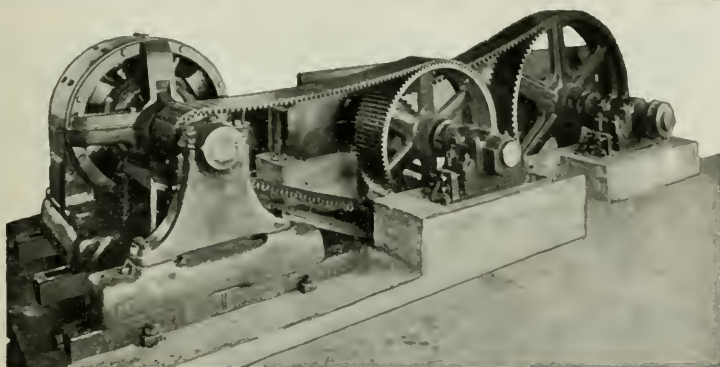
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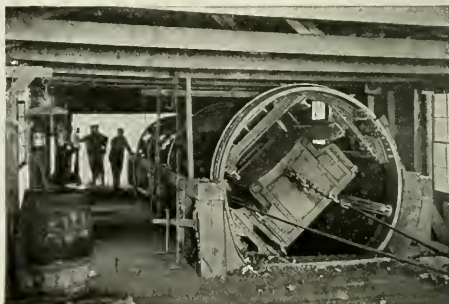
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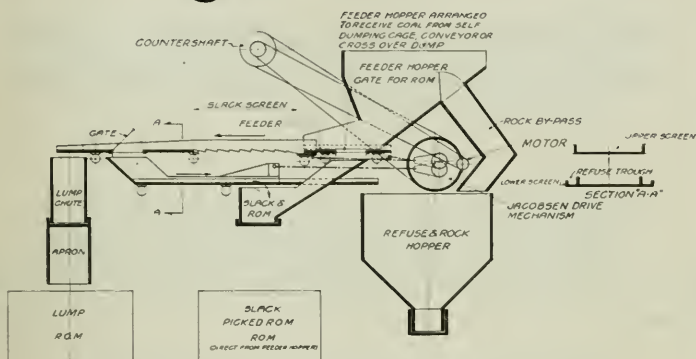
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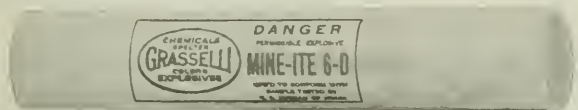
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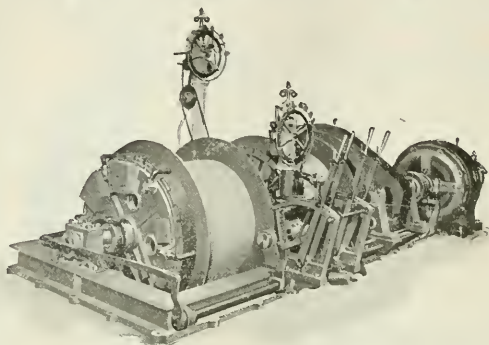
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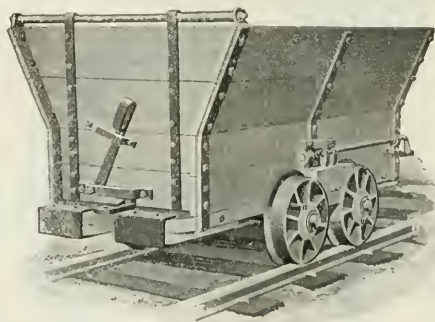
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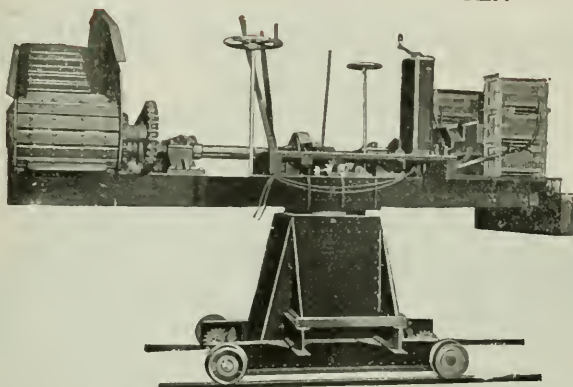
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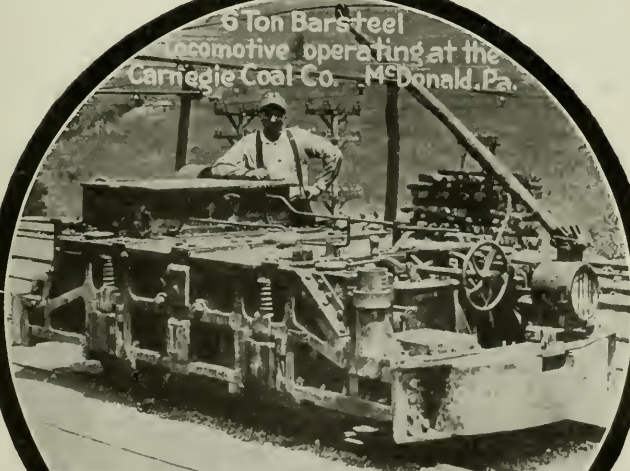
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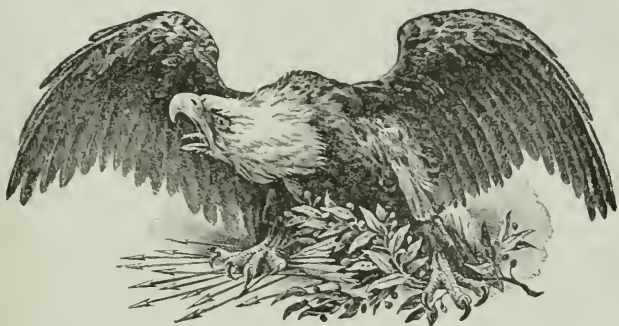
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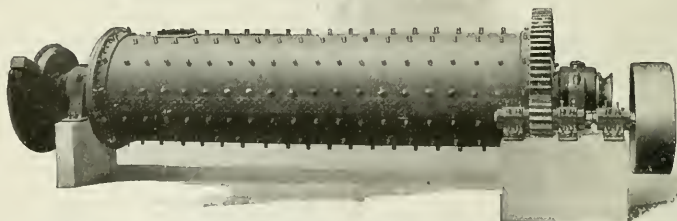
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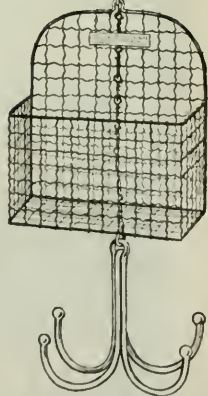
*Work all day wid no sugar in yer tay,
 Oop an' down on the ould tramway,
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 "Byes, be sthili,
 An' put all yer strenth on the casth
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 An' dhrill, ye tarriers, dhrill!"
 An' sweat! An' porspoire!*

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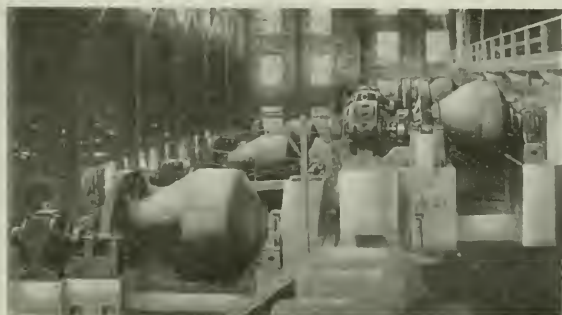
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THE MINING CONGRESS JOURNAL

Official Publication of the American Mining Congress

PRICE LEVEL REDUCTIONS

The world's wealth is estimated at \$250,000,000,000, its annual earning power at \$50,000,000,000. Four per cent is an excessive estimate of the earnings of the world's wealth because a large part of that wealth is entirely unproductive. Four per cent of \$250,000,000,000 is ten billions, leaving \$40,000,000,000 of the annual earning power of the world to be credited to labor, invention and management, of which the larger part, wisely and perhaps justly, must be credited to labor. *The Chicago Tribune* editorially commends the acceptance of wage reductions in preference to the loss of jobs in the following language:

"Acceptance of wage reductions in preference to loss of jobs in various New England textile mills indicates an appreciation of economic conditions likely to have far reaching consequences. These workers are showing practical recognition of fundamental facts which gives weight to their assertion that dividends as well as wages are factors in high prices and are equally subject to reduction to maintain the balance of life.

"Some large producers have reduced prices. More have not. Some retailers have reduced prices. Some have not. All will be forced to do so. The interesting point is whether they will descend the ladder or have it kicked out from under them.

"The downward trend of prices and consequent uncertainty of business will be checked only when demand for the commodities involved is improved. It will not be improved if vast numbers of workers are thrown out of employment and thereby eliminated as potential purchasers. It will be improved if these workers are kept on the pay rolls,

even at reduced wages, if at the same time prices are lowered.

"The textile mill workers are making a small sacrifice to avoid a greater one. Employers, wholesalers and retailers, must do likewise. Arbitrary dismissal of great numbers of workers will bring hardship to those dismissed and certain loss not only to those firms which thus cease business but to all concerns which provide goods for the workers."

If it is true that 90 per cent of prices to the consumer represents the labor cost then when normal conditions again prevail, the wage-earner only stands one-tenth of the wage reduction as applied to that part of his wage which is spent for living. And this applies with greater ratio to the world's stock of goods produced at the high level of wages. The prices on these goods must drop to the competitive price and the loss result falls on capital alone except where combined effort is able to maintain price by stopping production, a procedure fraught with difficulty and risk of criminal prosecution.

As the *Tribune* wisely suggests, the question is "whether they will descend the ladder or have it kicked out from under them."

WESTERN FREIGHT RATES

The logic of the preceding editorial applies with special stress upon the railways of the Rocky Mountain states. In a territory comprising ten states of the Union, the principal business is the production of minerals. Increased

freight charges fall with peculiar burden upon raw materials necessarily bulky and of low value as compared to tonnage. Before the war the rate per ton per mile was much greater in these states than in the older parts of the nation. This was justified by the sparse settlement and mountain hauls. It took more coal and more time to haul a trainload over the mountain elevation than the same distance on a comparative level. Rates were justly higher than elsewhere, although it was generally believed that the differentials were excessive.

Then these rates were increased first five per cent, then fifteen per cent, then twenty-five per cent, and now thirty-five per cent, each increase being applied to the total preceding rate. So that the present rate is 203.75 per cent, or three and three-quarter per cent more than double the abnormally high rate before the war. This rate the mining industry in those states cannot pay.

These rates can be paid on ingoing shipments of supplies, but cannot be paid upon the outgoing shipments to markets where competition controls the selling price. And the railroads will either meet these conditions or "have the ladder kicked out from under them." The production of minerals in the Rocky Mountain states is falling off in proportion to its unjust burdens. Many mines are closed; many more are about to close. All effort at the development of new mines is suspended.

Some day, as at the beginning of the war, zinc prices will jump from five cents to thirty cents. Other minerals will command extortionate prices because the supply has been cut off by cost burdens which crush the industry, an industry which cannot immediately respond to the lure of high prices. The nation will then pay some of the losses. But first, and a long time first, the railways will be forced to operate at a loss because there are no outgoing shipments, and but small incoming shipments—so small that no rate could be named which would cover the railway's cost of operation. The original invest-

ment is being jeopardized by an unwillingness to share losses with producers during the present business stress upon western mining.

COMMENDABLE ACTION

Very unusual as well as very commendable is the action of the building trades unions of Baltimore in refusing to take advantage of a contract agreement by which their wages were to be advanced from 90 cents per hour to \$1.00 per hour on November 1, 1920. An agreement was made November 1, 1919, by which workmen were to receive 90 cents per hour during the year 1919 to be increased to \$1.00 per hour November 1, 1920. The employers made no objection to carrying out the contract but the employees, realizing that the trend of prices was downward and that so large a percentage of the cost of production is made up of the labor charge, refused the advance fearing that an increase in cost of building would so hamper building construction that at least a part of their membership might be without work. It is estimated that 90 per cent of the total cost of all the prices paid for different commodities is made up of the labor charges beginning with the production of raw material, following through its manufacture, its transportation to points of use, and the various selling agencies which handle the product so that it is apparent that an increase of pay, if universal, would add to the employees' compensation but 10 per cent of the amount of the increase and the increased pay would be likely to limit production to such an extent as to make impossible the employment of at least a minority of those available for service.

If the United States were entirely independent of the world, then the price level would be a matter of small importance, but in view of the fact that our productive capacity is practically ten per cent in excess of our possible consumption, it is evident that our goods must be produced at a price which will enable us to dispose of ten

per cent of them in foreign markets in order that all the productive machinery of the nation shall be continuously employed. It is a most hopeful sign that the labor unions are intelligently considering this fundamental question in such a way as to justify the action of the Baltimore building trades unions. This action, if universal and supplemented by the performance of a full day's work for a full day's pay, will solve the industrial problems of the nation and make for the continued operation of all the nation's productive forces.

A FEDERAL INCOME TAX CLEARING-HOUSE.

"You have presented a definite and understandable statement of your assets," says the banker to the business man seeking credit, "but what of your liabilities? What are your tax obligations to the government?"

The business man shrugs his shoulders and replies: "Uncle Sam only knows—and he won't tell!"

A strange commentary, is it not, on "enterprising Americanism." And who can compute the doleful influences of the restriction of industrial expansion, the interminable worry and harassment of uncertainty and delay, the impending mass of complex litigation, and in general the whole gamut of economic distress resulting from the natural failure of the authorities literally to administer an almost impossible law?

The whole business of war is a bad business, with endless consequences, but the prolongation of the volume of war taxation is sufficiently inimical without the indeterminate settlement of obligations incurred by business two or three years ago. This war "hang-over" is unnecessary, yet the remedy is not in any of the existing statutes.

Congress found it advisable to enact special legislation to clear the claims of citizens against the war and navy departments under suddenly terminated war contracts. How much more necessary to act, however radically, to relieve

the business of the nation from its incubus of undetermined taxation.

The American Mining Congress has recommended the enactment of a statute authorizing the President to appoint for one year, with the consent of the senate, a bi-partisan board of ten special commissioners of revenue, vested with sufficient authority not only to pass upon and settle cases consequent upon the war-time period, but with specific powers to compromise in equity the disputes that appear hopeless under literal application of the laws.

This constructive proposal fortunately involves mutual concern. To the government, in this period of rehabilitation and voracious fiscal requirements, the more expeditious returns of revenue should prove an indisputable advantage. The cost of organizing and equipping the special board would be returned many times in the saving of interest alone.

The necessity is urgent and no other solution appears. The job is beyond the authority and the practices of the Revenue Bureau, which is almost flabbergasted now with delays, denials, uncertainties and harshnesses that, in the words of a former official, "would test the sanity of Solomon and the temper of a tar baby."

COMMON SENSE REGULATION OF COAL PRICES

The anthracite operators in appointing a Fair Practice Committee have set an example for the country. They have decided that the way to eliminate profiteering is to eliminate the profiteer, and that the way to eliminate the profiteer is to do it themselves.

No matter who is responsible for exorbitant fuel prices, the operator gets the blame. He generally wholesales his coal at a ridiculously low margin of profit and has nothing whatever to do with fixing the retail price, but the consumer nevertheless holds him responsible. So the anthracite operators, weary of public complaining and government intermeddling, concluded to

take charge of a very bad case and apply the remedy. They appointed a Fair Practice Committee which lost no time in diagnosing the trouble and deciding upon proper treatment.

The operators decided that "where coal is not sold direct by the producer to the retailer there shall be but one reasonable charge added to the cost." The Fair Practice Committee has interpreted this to mean "the elimination of any resales which might tend to increase the price asked of the retailer or consumer." This is the law and this is the interpretation, and there is more concentrated common sense in the law and more practical judicial wisdom in the interpretation than can be found in all the regulations and all the pronouncements of all the government's war-time commissions, bureaus and administrations.

Between the producer and the retailer there must be one wholesaler, or distributor, or middleman. He is entitled to a reasonable profit. Upon occasions a second wholesaler may be necessary. Fluctuations in demand or any one of numerous other factors may compel a re-handling. But in such an instance it is up to the wholesaler of coal, as in any other line of business, to take a loss or split his profit, for there must be hereafter only one reasonable middleman's profit exacted between the producer and the retailer. Any additional toll is not a profit, but a rake-off, and the man who takes it is not a legitimate wholesaler, but a profiteer.

In the successful working of the anthracite plan there will be two very valuable object lessons. The first is that successful men who know all about the business in which they are engaged can regulate it a great deal better than the government's brilliant experts who know nothing about it. The second is that business men, with the demand for governmental interference in industry becoming more and more insistent, would do well to regulate their profits and trade practices in the interests of the public while there is still left to them something to regulate.

MAINTENANCE OF GOLD STANDARD

Resolution No. 10 endorsing H. R. 13201, the McFadden Bill, is one of the most important adopted by the Twenty-third Annual Convention of The American Mining Congress, for the reason that it provides for the protection of the monetary gold reserve, which is fundamental to the financial security of the nation. The resolution is so brief and so tersely states the need for providing a remedy to maintain the normal gold production of the United States that it is herewith presented, as follows:

"WHEREAS, The Government of the United States is justly committed to the gold standard; and

"WHEREAS, The maintenance of a healthy gold mining industry is absolutely essential to the maintenance of the gold standard; and

"WHEREAS, The gold mining industry of the United States is in deplorable straits, having almost ceased to function, and it is necessary to apply immediate measures for relief; and

"WHEREAS, The McFadden Bill, H. R. 13201, offers the best present solution of the problem; be it

"RESOLVED, That The American Mining Congress, in convention assembled, heartily endorses the McFadden Bill, and pledges its support to the measure, and urges a like support on the part of all our citizens who have at heart the maintenance of the gold standard and the common welfare of the country."

For the years 1919-20 the amount of gold sold for industrial consumption by the United States Mint has exceeded the amount of newly produced gold. Consequently the excessive industrial consumption of gold has depleted the monetary gold stock. This condition constitutes a menace to the financial security of the nation. The gold production of the United States has rapidly declined, so that this year it will be less than half of the amount produced in 1915, or between \$40,000,000 and \$50,000,000. Evidence was introduced by those who are closely in touch with the present condition of the gold mining industry to the effect that unless substantial re-

lief was immediately provided the gold production of the country would still more rapidly decline in the future and would soon reach the vanishing point. This condition also constitutes a menace to the gold standard itself, as it must be obvious that the monetary system cannot long be maintained upon a foundation of gold, the production of which is declining, while the need for an expensive credit and currency system is ever-present. The McFadden Bill provides a remedy for adjusting the cost and price equation between the industrial consumer of gold and the producer of new gold so that the normal production of gold may be maintained in sufficient volume to satisfy the industrial requirements of the nation, and thereby protect the monetary gold reserve of the nation from industrial depletion. The McFadden Bill proposes an American solution for an American problem, and one which in no way impairs the monetary unit but which will serve as a protection to the gold standard itself. No reason has yet been advanced why the McFadden Bill should not become a law. Many opinions adverse to the bill have been expressed, but when analyzed do not constitute a real objection. Time, however, is a most important factor in the solution of this problem. If prompt action is taken in providing this remedy, many gold mines which are being operated at the present time at a loss or which are maintaining their pumping operations without producing an ounce of gold, will be saved from total destruction, as these properties cannot continue to operate and pump much longer without profit. The loss of these mines will mean a substantial loss in the available gold ore resources of the nation, which cannot again be recovered, in which event new ore bodies must be discovered and developed. Much of the high grade placer ground available after the Civil War has already been worked out, and many of the high grade quartz properties, and it is indeed very questionable whether we shall ever be able to replace the natural gold resources of the present

by new discoveries in the future. A waste of gold ore tonnage today will seriously impair our ability to produce more gold tomorrow. Waste makes want, and at a moment of great financial need for more gold we will not be in a position to supply it unless constructive relief is immediately afforded the industry. This is not a matter of providing relief for the gold producer as such, but is a matter of broad public concern.

PUBLICITY FOR MINING DISTRICTS

Great minds run in the same channel. On the day that the MINING CONGRESS JOURNAL prints an editorial urging more publicity for "Mining, the Greatest Industry," the *Daily Mining and Financial Record*, Denver, advocates "Publicity for Mining Districts." And on the same day the Reno Chamber of Commerce establishes a department for giving publicity to mining resources and opportunities in the Reno territory.

The line of thought in the Denver editorial, in so far as it is developed, and that in the more extended article in the MINING CONGRESS JOURNAL are so nearly parallel as to suggest that they were written by the same person, or that two editors had conferred and planned to spring the "big idea" at two widely removed strategical points at the same time. The wording of the keynote paragraphs is practically identical. The message of each to the mining industry, expressed in the form and with the fervor of an exhortation, is, "Let us have more mining news, so that the nation will again be made to realize how important the mining industry is to the prosperity of the nation."

This injunction cannot be repeated too often and it cannot be heeded too soon. Publicity is the current that moves the dynamo, the nitrate which turns a sterile wilderness into a productive tract, the "close" in the selling talk that converts a prospect into a customer.

Venizelos was the greatest man in Greece. He was sold through publicity to the world at large, to every statesman and every diplomat whose opinion really mattered, but he was not sold to the shopkeeper, the bootblack and the man of the street back home in Athens; hence his fall was inevitable. Conversely, Lenin, distrusted and detested by the world, secured the ascendancy and still retains control because he sold himself to the Russian urban masses. It pays to advertise. Propaganda comes mighty near to being all-powerful. But propaganda is not a product of the Lenin & Trotsky wrecking crew or the Hohenzollern destruction department. It is a development of American business. California fruit growers by publicity boosted the sale of oranges and their bank accounts to unheard of heights and set half the country to eating ripe olives and raisins. Cannerymen of food resorted to the same method to convince the consuming public that the germ of ptomaine poisoning existed in the imagination more frequently than in a metal container. The southern pine producers and the makers of bottled "pop" may be cited among many other industries which have more recently wrested recognition from the law makers and patronage from the public by the simple but irresistible expedient of truthful, well-timed, pointed publicity. Best of all, more pertinent than all because of the lesson which is so patent are the actual achievements, partly through publicity, of the American Mining Congress, achievements which recently elicited from the President of the United States the following words of recognition: "The work of the Congress in co-operation with the federal government, with mining operators and others interested in the development and utilization of our mineral resources has been and will be of immense benefit."

But the work of the American Mining Congress needs to be supplemented and supported, especially in the field of publicity, by every mining man everywhere. The mining industry must be "sold" to the rank and file of American

citizens. Statesmen, editors and economists must no longer say that measures and movements are good for the nation as a whole just because they benefit "merchants, manufacturers and farmers." In every list of the classes of men who promote and protect America the word "miner" must be displayed and in every statement of the basic and indispensable sources of this country's wealth and power, whether made in the press, the pulpit, the forum or in private conversation, the term "mining industry" must always be included. Every mine owner knows this is true. But the rank and file of American men and women does not know. They must be made to know, and the way to teach them is through publicity. The *Denver Mining and Financial Record* is right. The Reno Chamber of Commerce is right. And the mine owner, already sure that he is right, can well afford to go ahead.

A WORD FOR THE WILDCATTER

The "blue-sky" season is upon us. Legislatures are about to convene in many states and soon the guns of "reform" lawmakers will be trained against that most maligned of all creatures, the wildcatter.

It seems to be an obsession with some lawmakers that the American business man, despite his well merited reputation for fair dealing, becomes a scoundrel whenever he enters the mine promotion field, and that the American public, notwithstanding its high rating for intelligence, loses its head every time he comes around. And out of this assumption springs a biennial crop of "blue-sky" laws designed to protect the public geese from that most dangerous of all barnyard animals, the wildcatter.

The assumption that the promoter of an unproven oil field or metal mine, commonly designated as a wildcatter, is less honest than promoters in other lines of industry, and its parallel error that oil and metal promotion should be more closely regulated by law than other characters of business enterprise, needs to be challenged.

THE MINING CONGRESS JOURNAL

A poor world this would be but for the wildcatters who have gone before us. The wildcatter is not a new species. His operations are not restricted to a few fields, and he is not confined to America. In every age, everywhere, he who blasts the rocks of opposition and digs through the soil of ignorance and indolence in search of the golden things beneath and beyond, risking his all in the venture, is a wildcatter. Had not the Phoenician merchant mariners forsaken their profitable trade in the charted Mediterranean and done a little wildcattering after the tin in distant isles, Albion's discovery would have been delayed and the progress of the world set back for centuries. Columbus, seeking the gold in the marts of India, wildcatted the seven seas for a northwest passage and found America. The great majority of Old World explorers were wildcatters, risking their own, their friends' and their sovereigns' money in the quest for precious metals in the New World. Some of them went broke, some staid broke, some became rich, but the world of civilization and humanity is still drawing down dividends on their investments. If there had been a "blue-sky" law in Spain prohibiting Columbus from seeking funds for an expedition to an unproven country, the mineral wealth of America might have remained unprospected still.

The Puritans, the Huguenots, all the devout bands who settled Massachusetts, along the Carolina coasts and in Florida, were spiritual wildcatters who risked property, even life and death of themselves, their families and their trusting friends to prospect in a land where international promoters asserted the oil of joy and gladness flowed freely and was obtainable without application to the owners and controllers of any existing orthodox well. America's experiment in democracy was a wildcat dream, made real by the Continental wildcat soldiery who, refusing to be dismayed by the dry wells of Valley Forge and the fires of treason, kept on digging until they struck pay dirt at Yorktown. Every new state added to the original

thirteen was prospected, patented and homesteaded by dauntless wildcatters. Some of the European countries still persist in regarding the entire American effort as a wildcat exploit, notwithstanding the amount of pure gold refined yearly by the world's greatest smelter, the American Melting Pot.

No human being can give any substantial reason why the investment of money in an undertaking to find metals or oil is less legitimate than an investment in a new factory, or in hitherto untitled agricultural land or in a railroad whose proposed right of way extends through an undeveloped country. And no one can give a substantial reason why officers of the law should act as fiscal guardians over would-be investors in mining enterprises. It is incumbent upon all persons to investigate before they invest, and if they fail to observe this elementary precaution they may expect to lose.

The risk which every investment carries is proportionate to the promised rate of profit. Stock with a par value of \$1.00 which is offered at one cent per share inherently contains a hazard one hundred times greater than if legitimately sold at par. If one hundred investments in one-cent stock shall lead to one discovery which makes the stock worth par, the investment is on a level with stock selling for and worth its par value. The investor is entitled to protection against fraud and misrepresentation but any law which prevents investment in hazardous enterprises is not for the public good. MINING CONGRESS JOURNAL favors the most drastic laws to punish attempted fraud or misrepresentation and this whether the false statements are believed or not and whether loss is entailed or not. It does not favor any so-called blue sky law which prevents or discourages the raising of funds on the co-operative plan for the sinking of oil wells which may or may not be dry because some one must take the chance or there will be no oil wells developed. The progress of the world depends upon those who take chances.

TWENTY-THIRD ANNUAL CONVENTION

Operators, state and national officials, engineers, educators, publicists and financiers representing thirty-two states and insular possessions, attended the twenty-third annual convention of the American Mining Congress held November 15-19 in the city of its birth—Denver, Colorado.

In the number of accredited delegates registered and in the number of visitors, in the size and significance of sectional conferences, in volume of business transacted and from the standpoint of reforms and remedial measures projected the convention transcended all previous gatherings of its kind. And while the occasion was strictly a meeting of business men for business purposes, the natural charms of the west were not overlooked, and the hospitable men and women of Denver made the stay of their guests altogether enjoyable.

W. J. Loring of San Francisco was selected at the annual organization meeting of the board of directors to guide the destinies of the organization for the coming year, succeeding Bulkeley Wells, who declined to stand for re-election. The new president has extensive gold mining properties in California, Nevada, Arizona and Alaska. His private interests keep him in touch with the western field and with national movements and events affecting the entire American mining industry.

Harry L. Day of Idaho was succeeded as first vice president by D. B. Wentz of Philadelphia, who until the election was second vice president. E. L. Doheny of California, third vice president, was made second vice president, and T. T. Brewster of St. Louis

was elected third vice president. J. F. Callbreath was re-elected secretary.

At the annual membership meeting

the following were elected directors: W. J. Loring, San Francisco; Carl Scholz, Charleston, W. Va.; Robert Linton, Butte, Mont.; Hugh Shirkie, Terre Haute, Ind.; James A. Douglas, Bisbee, Ariz. Seven incumbent directors hold over. They are Bulkeley Wells, Denver; Daniel B. Wentz, Philadelphia; John C. Howard, Salt Lake City; T. T. Brewster, St. Louis; E. L. Doheny, Los Angeles; Harry L.

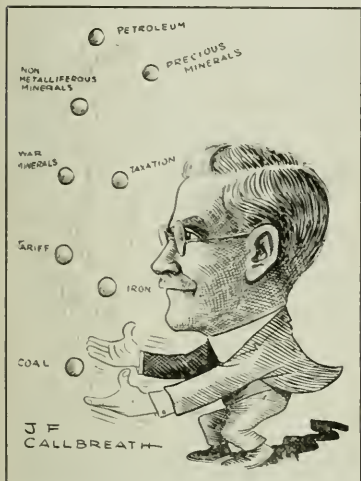
Day, Wallace, Idaho, and E. P. Mathewson, New York.

The new Executive Committee is composed of President Loring, Robert Linton and E. P. Mathewson.



Felicitations.

General Wells, the retiring president, was presented with a gold watch and



Secretary Callbreath with a diamond stud by their associates. The setting for this felicitous occasion was the annual banquet, over which Thomas B. Stearns of Denver presided as toastmaster. On behalf of the Congress, Secretary Callbreath presented to D. W. Bruntton of Denver an honorary life membership in recognition of his devotion and services to the organization and the industry. That the oratorical portion of the banquet program was all that any well regulated flow of wit, humor, pathos and philosophy could possibly be may be adjudged from the fact that the speakers included Mr. Loring, Senator Charles S. Thomas of Colorado, Governor Emmet D. Boyle of Nevada, T. A. Rickard, editor of the Mining and Scientific Press; E. B. Grey, delegate from Alaska; W. G. Bieri, representing the railroads; B. B. Brooks, former governor of Wyoming;

L. C. Fisher, delegate from the Philippines, and T. T. Brewster and E. P. Mathewson, directors of the Congress.

Foremost among the departmental meetings were the National Mine Tax Conference and the Gold Conference. Work of the Mining Congress in behalf of the protection of the monetary gold reserve and for relief from burdensome and unwise taxation systems will be intensified as a result of conclusions reached at these meetings.

Denver's Hospitality.

For weeks and months before the set time Denver prepared to make the convention successful and enjoyable. John T. Burns, assistant secretary of the Mining Congress, who maintained convention headquarters in Denver practically four months, was given every encouragement and substantial assistance by the citizens of the western metropolis and of the state of which it is the



capital. The Albany Hotel, which was headquarters, and the First Baptist Church, where the main convention sessions were held, afforded meeting and exhibition facilities which not only contributed to the success



of the gathering, but which were indispensable. The newspapers of Denver, by editorials and news and feature articles, went the limit, sparing neither space nor expense. Newspapers of the west generally, and those weekly and monthly magazines which give attention to mining matters, also contributed much to the general advance interest aroused and the exceptionally gratifying attendance.

Sectional Meetings Start Early.

So great was the interest among members, delegates and visitors that they began holding informal meetings on Sunday, November 14, the day before the formally set opening day. An informal dinner was held Sunday night, over which E. C. Voorheis presided. Among those attending and participating in the discussion were Dr. F. G. Cottrell, W. J. Loring, J. F. Callbreath, Dr. G. K. Burgess, H. W. Seaman, A. G. Mackenzie, Joseph Bellis, Archie Stefani, Eugene F. Mayer, George Wolf, Judge John F. Davis, Burton Bunch, Carl Martin, and John T. Burns.

The Standardization Section went into action before all the others, starting on

Sunday afternoon. Charles A. Mitke, chairman of the metals division, and Carl Scholz were the leaders in these gatherings. Mr. Scholz assumed the duties of Col. Warren R. Roberts, chairman of the coal mining division, who was prevented by illness from attending the convention.

Beginning on Monday and continuing through the whole convention period, meetings were held by the Oil Shale, Flotation and Education and Public Service sections. The section of Mining Education and Public Service was formed at a meeting Thursday afternoon over which Dean F. A. Thompson of the Idaho School of Mines presided. This section elected permanent officers, as follows: Chairman, Dr. Charles H. Fulton, director School of Mines and Metallurgy, Rolla, Mo.; vice chairman, Dr. A. Illinski, president New Mexico School of Mines; secretary, Dean Thompson.

Gold Conference.

As one of the most constructive and definite results achieved by the convention, a definite program was adopted for the rehabilitation of the gold industry in the interest of the financial security of the nation. It became evident early in the week that the gold contingent was solidly united in support of the McFadden Bill, which provides an American solution for an American problem. A resolution was unanimously adopted endorsing the bill, showing the need of maintaining a healthy gold mining industry as essential to the maintenance of the gold standard, and, urging its passage upon Congress.

Addresses were delivered at the Gold Conference by Governor Emmet D. Boyle of Nevada; E. P. Mathewson of New York; Fletcher M. Hamilton, state mineralogist of California; T. A. Rickard, editor of Mining and Scientific Press, San Francisco; H. M. Parks, director, Oregon Bureau of Mines and Geology, Portland; George E. Collins, Denver; B. C. Yates, Deadwood, South Dakota; W. B. Phelps, Oatman, Arizona; Milnor Roberts, Seattle, Washington; H. W. Seaman, Chicago; H. N. Lawrie, economist, of the American Mining Congress, Washington, and W. J. Loring, San Francisco, newly elected president of the American Mining Congress.

All of the speakers before the Gold Conference are intimately connected with gold mining operations and each had recently made a survey of the present condition in the respective area of the United States in which he resides. The facts which they

presented as a result of this survey showed that in many sections of the country, notably in Alaska, California, Arizona, Nevada, Utah, Colorado, Montana, South Dakota, Idaho and Oregon, the production of gold is rapidly declining, and that many mines now operating will soon close permanently unless constructive relief is speedily provided by Congress, in which event a large percentage of them will be a total loss and unreclaimable at a later date. It is estimated that the gold production of the United States will be between forty and fifty million dollars, less than half that of 1915, and it was also predicted that the decline in production would be more pronounced in the future and approach rapidly the vanishing point. The argument was advanced that inasmuch as

Congress had arbitrarily fixed the price of gold so that the industrial consumers were thereby subsidized in being supplied with their metal at the pre-war price, it should also adjust the price equation between the producer of new gold and the consumer of industrial gold in order that the normal production of gold be maintained in sufficient quantity to satisfy the industrial consumption and thereby protect the monetary gold reserve from further industrial depletion. It must be evident that the drain upon the monetary gold reserve by industrial consumption in excess of production in the last two years constitutes a menace to the financial security of the nation, and that the problem of restoring the gold mining industry to normal is not one for the relief of the gold producer, but is an absolute necessity to the financial reconstruction of the nation and the protection of the gold standard.

"The records show that in the beginning the American Mining Congress was vitally interested in and as an organization helped very prominently in creating the Bureau of Mines. From your continued co-operation, I am led to believe the results have been at least encouraging."—Dr. F. G. Cottrell, Director Bureau of Mines.

"The American Mining Congress occupies a peculiarly favorable position to be of service both to the government and the mine operators. Its organization permits it to gather information promptly from the entire mining area, to use that information for the general good, to thresh out and harmonize differences of opinion, and to render a real and lasting benefit to all the people. On the occasion of its twenty-third annual convention, it merits and receives our esteem and congratulations."—Judge E. C. Finney, of the Board of Appeals, Interior Department.

"The American Mining Congress is the pioneer organization of the mining men of the nation. It numbers among its members the leading mining men and oil operators.

"The American Mining Congress is a fighting organization, as demonstrated by the battles won by it through its Washington headquarters. Prosperity for the mining industry means prosperity for the nation, and the work of the American Mining Congress will help to make this prosperity permanent."—The Daily Mining and Financial Record.

War Minerals Conference.

Those of the delegates who are interested in the war minerals relief situation met with the War Minerals Division of the American Mining Congress Wednesday morning, November 17. At this informal meeting Judge John F. Davis of California presided.

Statements were made by John A. Haak of Portland, Oregon; A. Cressy Morrison of New York City, and many of the claimants present. The bulk of the discussion was taken up with a resume of the history of war minerals legislation and the administration of the present War Minerals Relief Act.

Herbert Wilson Smith, chief of the War Minerals Division of the American Mining Congress, presented the brief already prepared and submitted to the Attorney General of the United States on the subject of the Attorney General's ruling on the question of request and demand.

The claimants present were extremely interested in the recent statistics on the activities in the administration of the War Minerals Relief Act and the probability of the completion of the administration in the near future.

At this session a resolutions committee was appointed, which met Thursday morning with resolutions prepared for presentation to the general resolutions committee. These resolutions covered the support of the present bill before Congress, asking for an appeal to the Court of Claims for dissatisfied claimants and the retention in statu quo of the present appropriation pending passage of this or similar legislation.

Tariff Conference.

Thursday afternoon, November 18, the various mineral industries interested in the necessity for tariff protection for their industries met in general session. A large number of delegates were in attendance over whom Nelson Franklin of Denver presided.

Mr. Franklin has been active in Washington for the last year in vigorous efforts for protection of the tungsten industry. He opened the meeting with a short statement of his work and the work of those who co-operated with him in Washington in behalf of the Timberlake Tungsten Bill.

Charles B. Timberlake, congressman from Colorado, and father of the tungsten legislation, made a most excellent address on the subject of tariff legislation for mineral industries, with particular reference to tungsten, graphite, and chrome. He told further of the activity in Washington in behalf of protecting American mine industry from the disastrous competition with foreign labor.

A. Cressy Morrison of New York spoke to the convention on the rapid development in this country of the ferro-alloy industry and its crying need for protection in face of foreign competition.

Fletcher Hamilton, state mineralogist of California, addressed the meeting on the subject of the quicksilver industry of the United States, and particularly of California; its competition with foreign product and the

advantage and necessity of the protection of this young industry.

Senator E. C. Voorheis of California spoke on the tariff situation as it affects the mineral industry, with particular reference to tungsten and told of the rapid development of the tungsten mining industry in this country during the recent economic expansion.

Judge John F. Davis of San Francisco made a stirring appeal for the granting of protection by the government of the United States to sustain and make permanent these young American mining industries, particularly those which contribute to the ferro-alloy development, especially tungsten.

Herbert Wilson Smith, chief of the Tariff Division of the American Mining Congress, told of the work for tariff done by the American Mining Congress during the last year and outlined suggested plans for the continuance of this work during the coming year. He explained the co-operation of the Mining Congress with legislative and executive departments in the preparation and presentation of basic facts and statistics on which tariff schedules can be predicated.

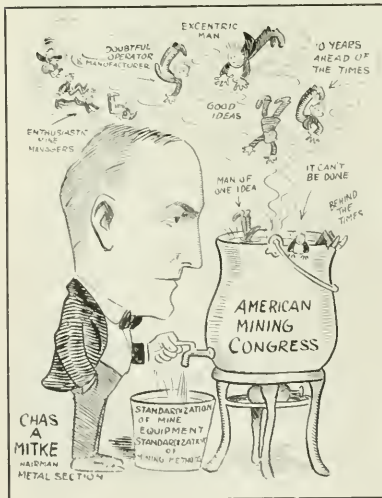
The chairman of the session appointed a Resolutions Committee composed of Judge John F. Davis, chairman, and John H. Haak, of Portland, Oregon, and A. G. Mackenzie of Salt Lake City.

Resolutions were drafted and presented to the general resolutions committee and finally adopted by the convention as a whole, urging the passage of necessary protection by tariff to American mineral industries, subject to foreign competition at low labor costs, urging passage of legislation to prevent the dumping of products of foreign mineral industries at disastrously competitive prices in this country and a further resolution to urge the speedy passage of the Timberlake Tungsten Bill, now before the Senate.

Every mineral industry seeking the protection of tariff was represented at this meeting and the construction outlined in the program for the coming years as made, is solidly planned.

General Convention Sessions.

The first general session began at 2.30 o'clock Monday afternoon, November 15, with an organ recital by Dr. John H. Gower, after which T. B. Stearns, chairman of the Committee on Arrangements, called the meeting to order. Addresses of welcome were made by Mayor Dewey C. Bailey, of Denver, and George E. Collins, governor of the Colorado Chapter of the American Mining Congress. President Bulkeley Wells then took the chair and presented E. P. Mathewson, of New



THANKS,

To the people of the State of Colorado and the City and County of Denver;

To the Hon. Oliver H. Shoup, Governor of Colorado, and the Hon. Dewey C. Bailey, Mayor of Denver;

To John E. Miller, superintendent of exhibits;

To the Mining Bureau of the Denver Civic and Commercial Association;

To the Colorado Chapter of the American Mining Congress;

To the First Baptist Church of Denver;

To the Albany Hotel;

To the *Daily Mining and Financial Record*, the newspapers of Denver and the Associated Press;

To Dr. John H. Gower;

To Thomas B. Stearns and J. Claire Evans and the members of their respective committees;

And last, but not least,

To Secretary J. F. Callbreath and Assistant Secretary John T. Burns.

THANKS, from every member of the American Mining Congress for their patriotic and most successful efforts in making the Twenty-Third Annual Convention altogether noteworthy and delightful.

York, who responded in behalf of the Congress. Judge John F. Davis responded on behalf of the mining industry of the west, whose delegates formed the largest contingent at the convention.

Addresses were made at the opening session by Eugene Myer, managing director of the War Finance Corporation, on "The War Finance Corporation and Its Possibilities as an Assistant to Foreign Trade," and Clay Tallman, commissioner of the General Land Office, on "The Mineral Land Laws." Mr. Tallman attended the convention as the personal representative of Secretary of the Interior John Barton Payne.

Mr. Myer expressed his hope that the convention would go on record in favor of continuing the War Finance Corporation and reviving its activities. This was done.

Mr. Tallman said that while the Mineral Land Leasing Law had defects, it was basically sound, and that its operations brought about needed improvement over the situation which obtained prior to its enactment.

At the second general convention session, held Monday night, a business man, a publicist and a statesman discussed the relations of capital and labor, strikes, the open

shop and the relationship of each to Americanism. The speakers were President Wells, who delivered his presidential message; Governor Oliver H. Shoup of Colorado; Senator Frank Dumont Smith of Kansas, who represented Governor Henry J. Allen, and Dr. Charles A. Eaton, editor of *Leslie's Magazine*, whose subject was "Present and Future Relations Between Capital and Labor."

Address of President Wells.

President Wells reviewed the history of the Congress, finding satisfaction in its growth between 1896, when its staff consisted of the secretary and his stenographer and its income was about \$5,000, and 1920, when the staff consists, besides the secretary, of seven divisional chiefs and a clerical force numbering approximately a score and its income exceeds \$150,000. Mr. Wells concluded by expressing his satisfaction with the result of the national election, which demonstrated among other things the impossibility of delivering the mass support of organized labor to candidates of socialistic or even more radical principles, and when all good citizens, Democrats and Republicans, voted solidly against the enemies of Americanism.

"But in the very decisiveness of our victory there is a grave danger that we allow ourselves to relapse into a state of fancied security," he said. "The sinister forces that seek to undermine and overturn our government are at work ceaselessly, day and night, year in and year out. They are well organized and strongly financed. Only through sustained effort, unending vigilance and grim determination can we hope to defeat them. Organized effort is needed to overthrow this menace."

Senator Smith and Dr. Eaton spoke in part along the same line, devoting particular attention to the evils of radicalism in strikes and such remedial measures as the open shop.

Radical Agitation Disapproved.

Dr. Eaton was outspoken in his disapproval of radical agitation and political and economic tyranny. "Greed and the lust for power," he said, "aided and abetted oftentimes by downright stupidity on the part of capital, have stimulated the creation of similar energies and attitudes on the part of labor. To the former brute force of capital we now have opposed the brute force of labor. The greed, alleged or actual, of the old-time capitalist is now more than matched by the greed of organized labor. We had, a generation ago, an incipient tyranny of wealth. It was broken by the iron flail of public opinion. We are threatened today

by a still more odious tyranny of labor. This tyranny will also be broken, for Americans, if they have an American soul, will not permit any tyranny, political or economic, to rule over them.

"It is impossible to conceive of a more absurd, wasteful and downright wicked method of settling labor disputes than the strike or lockout.

"The suggestion for a remedy that is strongest in my opinion is to strive to lift industry as a whole to the level of a conscious national service which earns what it gets and gets what it earns."

Dr. F. G. Cottrell, director of the United States Bureau of Mines, and General L. C. Boyle of Washington, were the speakers at the third general session, held Tuesday night. Congressman Louis T. McFadden was on the program also, but was prevented from attending by the press of legislative matters demanding his personal attention elsewhere.

Dr. Cottrell spoke of the work of the Bureau of Mines, both past and future. He

expressed his hope that the work of furnishing information as to particular metals, undertaken during the war, might be renewed. He referred to the co-operative work of the bureau, saying the government would go as far as the industries in fostering and supporting research work of this nature.

General Boyle spoke on "Industry and the Government." Industry, he asserted, needs less governmental control and more team work between capital and labor. The country must solve its own problems before it helps Europe, he said, and the evils of faulty taxation must be remedied before business can return to normal. The evils of the excess profits tax and of surtaxes were so punitive, he said, that capital was seeking shelter in the form of tax-free securities, and was thereby being withdrawn from development activities. General Boyle advocated amendment of the Sherman Law so as to permit of curtailment of production and of agreement as to price adjustment, in order to avoid waste and to conserve re-

President Bulkeley Wells during the convention received from Senator Warren G. Harding the following letter:

"My Dear Mr. Wells:

"I have to thank you for your invitation to the twenty-third annual convention of the American Mining Congress and to express my regrets that it will be impossible for me to accept. My regrets are the more keen because your meeting will bring together a body of men with which I am anxious to take counsel in outlining the policies of the next administration. I am aware of the difficulties that confront the mining industry of the country, and would be glad of the opportunity to familiarize myself with some of the details.

DEPRESSION ONLY MOMENTARY

"It is my hope and belief that we will presently be brought to realize that the tendency to reaction and industrial depression is only momentary. Not only is our own country sound and secure, but it is the world's mainstay and hope.

"We have been through a trying period in which national policy and aspiration have been misinterpreted and misjudged. We have now had a convincing demonstration of the real attitude of the American people, and it will not fail to reassure both our own people and the rest of the world, which so greatly needs our steadfast support and aid.

"A mighty effort will be required of us to meet the demands that a recovering world will impose. In no direction will these demands be more pressing than in supplying those necessities of life and reconstruction that must come from the richness of American mines. With wisdom and deliberation such as we hope to secure by dint of enlisting the aid of such expert authorities as your own organization represents, I believe we shall place our country and its industry once more on the high road of prosperity and success. To that end you may be assured that every energy and effort of the new administration will be directed.

PLEDGES HIS HELP

"Please be good enough to convey to the congress and all its members the assurance of my pleasure in receiving your invitation, and of my wish to serve you, in common with every other worthy American interest. Most sincerely yours,

WARREN G. HARDING."



minerals, such as oil and gas, and to this end it is the duty of the department to prevent waste and to encourage better methods of mining, handling and reduction. In this respect the American Mining Congress and mining operators can perform a valuable service in aiding the department, in their own interest and that of the general public.

"Captious criticism and petty fault finding are of no benefit to the department, to the public, nor to the operators. Suggestions or criticisms should be constructive, and in that form cannot fail to be advantageous to all concerned.

"The American Mining Congress occupies a peculiarly favorable position to be of service both to the government and the mine operators. Its organization permits it to gather information promptly from the entire mining area, to use that information for the general good, to thresh out and harmonize difference of opinion, and to render a real and lasting benefit to all the people. On the occasion of its twenty-third annual convention it merits and receives our esteem and congratulations."

Revenue Bureau's Problems.

T. T. Brewster, of St. Louis, presided over the fifth general session, held Wednesday night. Robert N. Miller, formerly solicitor of the Bureau of Internal Revenue, speaking on "The Problem of Next Year's Taxes," said two things would have to be done if the bureau was to do its work—the commissioner must be given an adequate force, and some method must be devised for notifying taxpayers just exactly how much they owe the government so that they could settle up with the assurance that their cases would be closed permanently. The remainder of the session was devoted to the coal industry, the principal speakers being Dr. E. W. Parker of Philadelphia, chairman of the Anthracite Bureau of Information; J. D. A. Morrow, vice president of the National Coal Association, and Carl Scholz, general manager of the Raleigh-Wyoming Coal Company, and George Wolfe, secretary of the Winding Gulf Coal Operators' Association.

"There is no purpose of the coal operators to profiteer, as stated by Senator Calder, chairman of the Senate Committee on Reconstruction and Production, in Denver early this week, but we do not want any Russian socialized methods in this country," Mr. Morrow said. "There is no reason for abandoning the present system for a nationalized control. If such a step was carried out we would see the finish of the Republic of the United States."

Although only one general session was scheduled for Friday, additions to the pro-

sources. "Organization is not wrong, but the abuse of it is," he held.

The fourth general session, held on Wednesday afternoon, was opened by the reading of a report by A. G. Mackenzie of Salt Lake City, chairman of a special committee on blue-sky legislation. The report was formally presented by both Mr. Mackenzie and Sidney Norman. Many of the most important resolutions of the convention were reported and adopted at this session. Addresses were delivered at this session by Judge E. C. Finney of the Board of Appeals, Department of the Interior, on "The Mining Laws of the United States"; James G. Fitch of Socorro, N. M., "State Taxation of Metal Mines"; D. Vance Sickman of Denver, "A Powderless Mechanical Process for the Mining of Coal," and Dr. Arthur J. Murray, of the Bureau of Mines, "The Application of Industrial Medicine and Health Conservation in the Development of Mine Labor Efficiency."

Judge Finney, in the course of his remarks on various aspects of mining and leasing laws, said the Interior Department was anxious to be practical in its administration of affairs, and to that end would continue to welcome suggestions from the American Mining Congress and from mine operators personally.

"It is sensible and right that none of our resources be wasted," he said, "and this is particularly true of limited and exhaustible

gram made it necessary to hold two, one in the morning and one in the afternoon. At the morning session addresses were made by Arthur Notman, superintendent of the Copper Queen Mine, Bisbee, Ariz., on "Conditions of Operation and Production in Open Shop Districts in Arizona"; Charles A. Chase, manager of the Liberty Bell Mine, Telluride, Col., who discussed the open-shop and industrial conditions of recent years in Colorado; L. Ward Bannister, of Denver, and W. G. Bied, president of the Chicago & Alton Railway. Mr. Bannister spoke on "Denver and the Open Shop" and Mr. Bied on "Relation of Industry to Labor."

The seventh, or afternoon, session was the most important of the convention, as well as the last general meeting, because of the fact that resolutions were acted upon at this time. Fletcher Hamilton, state mineralogist of California, and Arthur F. Fisher, delegate from the Philippine government, were the speakers. President Wells read excerpts from a paper prepared by James Lord, president of the mining department of the American Federation of Labor, which Mr. Lord was prevented from presenting personally on account of the death of his father.

Following are the resolutions adopted by the convention:

Urging That War Finance Corporation Resume Activities.

INTRODUCED BY BULKLEY WELLS.

WHEREAS, The sharp contraction during the past few weeks in domestic demand for American products has been so acute as to bring about a serious business situation and as to threaten even more unfortunate conditions, in agriculture and the commercial business, and the mining industries, and

WHEREAS, The European market has in the past under ordinary world conditions served in large measure as an outlet for the American producer, and

WHEREAS, Europe, although desperately in need of American raw material and food products today, both for the purpose of feeding and clothing its population and of giving them employment, is unable to do a large volume of business with the American producer by reason of the need on the part of the European buyer for long-term credits, and

WHEREAS, the War Finance Corporation, for the purpose of meeting the world emergency, was vested by Congress in March, 1919, with the power (which has not yet expired), either out of funds heretofore appropriated by Congress or out of funds to be obtained from the public by the sale of its bonds, to make advances on good security to American exporters and American banks to assist in the sale and exportation of American products to foreign purchasers on credits up to five years in duration, and

WHEREAS, The War Finance Corporation did, up to May 10th, 1920, demonstrate its usefulness to the country by assisting in the exportation of American products on credits of from six months to five years, and

WHEREAS, The Secretary of the Treasury, in May, 1920, caused said Corporation to suspend such exercise of its powers in the preservation and

ARRANGEMENTS COMMITTEE

- Honorary Chairman—HON. OLIVER H. SHOUP, Governor of Colorado.
- Chairman—THOMAS B. STEARNS, president Stearns-Roger Manufacturing Company.
- Chairman Reception Committee—HON. W. F. R. MILLS, manager Municipal Water Company.
- Chairman Exposition Committee—J. CLAIRE EVANS, vice president Denver Fire Clay Company.
- Chairman Flotation Conference—GEORGE E. COLLINS.
- L. L. AITKEN, president Midwest Oil Company.
- C. F. CLAY, chairman Petroleum Division, Colorado Chapter, the American Mining Congress.
- F. E. KISTLER, president Producers and Refiners' Corporation.
- HON. JESSE F. McDONALD, Leadville, Colo.
- HON. A. E. CARLETON, Colorado Springs.
- J. F. WELBORN, president Colorado Fuel & Iron Company.
- W. H. HUFF, president Victor-American Fuel Company.
- JAMES C. BURGER, vice president Hamilton National Bank.
- RICHARD A. PARKER, chairman Mining Bureau, Denver Civic and Commercial Association.
- HON. WM. V. HODGES, president Denver Civic and Commercial Association.
- GEORGE L. NYE, mining attorney.
- JOHN C. MITCHELL, president Denver National Bank.
- GEORGE M. TAYLOR, general manager Portland Gold Mining Company, Colorado Springs, Colo.
- D. W. BRUNTON, mining engineer, Denver, Colo.
- W. H. LEONARD, president Denver Rock Drill Company.
- _____
- #### Exposition Committee.
- Chairman—J. CLAIRE EVANS, vice president Denver Fire Clay Company.
- Vice Chairman—W. L. LOVELAND, general manager the Mine & Smelter Supply Company.
- Secretary-Treasurer—W. A. WICKER, of Hendrie-Bolthoff Manufacturing & Supply Company.
- R. W. GORDON, sales manager the Stearns-Roger Manufacturing Company.
- RAYMOND A. EATON, deputy industrial commissioner of city of Denver.
- W. H. LEONARD, president Denver Rock Drill Company.
- L. M. CARGO, general manager Westinghouse Electric Company.
- JOHN T. RVAN, vice president Mines Safety Appliance Company, Pittsburgh, Pa.
- C. A. VEATCH, Chicago district manager the Ohio Brass Company, Mansfield, Ohio.

stimulus of American export trade, although such powers still exist under the law, so that said Corporation is today inactive at a time when the American people have the most urgent need for its activity, and

WHEREAS, This meeting of the American Mining Congress, in Denver, Colorado, November 15, 1920, is informed that said Corporation could resume the exercise of its said functions with reference to export trade if the Secretary of the Treasury would consent thereto;

NOW, THEREFORE, BE IT RESOLVED, That this meeting does hereby most earnestly urge upon the Secretary of the Treasury that he now cause the War Finance Corporation to resume the exercise of its powers under Section Twenty-one of the War Finance Corporation Act to make advances in aid of the exportation of American products until such time as its said power in that behalf shall have expired under the law, or until the present dire emergency shall have passed; and

FURTHER RESOLVED, That the chairman of this meeting be and he is hereby authorized and requested to forward these resolutions to the Secretary of the Treasury, and a copy to Honorable William M. Calder, chairman of the Senate Committee on Reconstruction and Production.

BULKLEY WELLS.

The Public's Interest In Patents of Invention.

INTRODUCED BY BULKLEY WELLS.

WHEREAS, Patents on inventions represent a monopoly granted fundamentally in the public's interests; and

WHEREAS, In the case of similar monopolies such as public franchises it long ago became evident that some form of public administrative machinery such as public service commissions was necessary to function in a way between the issuing of franchises and final appeal to the courts; and

WHEREAS, The necessity for somewhat similar general supervision of monopolistic elements in other lines of business has more recently been generally organized, as for instance, through the creation of the Federal Trade Commission; and

WHEREAS, The extension of these same principles to the study and guidance of public policy with regard to the interpretation and control of patent rights appears to have distinctly lagged behind that of other less technical aspects of trade and industry; and

WHEREAS, a broad, intelligent and equitable public policy with regard to patents of invention is of vital importance to the whole mining and mineral industry;

NOW, THEREFORE, BE IT RESOLVED, That the American Mining Congress appoint a committee on patents of invention to cooperate with the proper governmental bureaus and committees of other business and technical organizations in working out methods for insuring to the patentee, to industry, and to the public more comprehensive and adequate guidance of public education and policy in the interpretation of patent rights.

Protesting Against Abolition of Interior Department.

INTRODUCED BY CARL SCHOLZ.

WHEREAS, more than one-half of the acreage of the United States west of a north and south line drawn through the eastern border of Colorado is now owned by the Federal Government; and

WHEREAS, The enactment of the Public Lands Leasing Bill creates a continued responsibility upon the Federal Government in handling the public lands of the West; and

WHEREAS, This vast expanse of territory contains more than 3,000 million tons of coal, untold oil reserves, oil shale deposits of unmeasured value, water power measured in productive force many times greater in value than its oil, oil shale and coal reserves combined, and immense deposits of phosphate and other minerals, and

WHEREAS, the administration of these vast resources will require an increasing service from that department which is charged with the work of supervising the development of the Rocky Mountain and Pacific Coast western states, namely, the Department of the Interior; and

WHEREAS, A proposal has been made looking to the discontinuance of the Interior Department and the creation in its stead of a Department of Public Works;

NOW, THEREFORE, BE IT RESOLVED, That The American Mining Congress in its twenty-third annual session assembled in Denver, Colorado, November 15-19, inclusive, enters its protest against the abolition of the Interior Department and urges that the Interior Department shall be continued for the above weighty duties and as that department through which the mining industry of the United States shall function in federal affairs.

Division of Mines and Geology.

INTRODUCED BY CARL SCHOLZ.

WHEREAS, The importance of the mining industry of the United States has been better appreciated during the days of the war when it was realized that the production of minerals was essential to the carrying on of the nation's contests in the great world war; and

WHEREAS, The relative importance of mining is shown by the fact that during the year 1919 the railroads of the country received from the transportation of mining products approximately 576 millions of dollars while from the transportation of manufactured products the total amount paid to the railroads was approximately 168 millions of dollars; and

WHEREAS, Those two activities of the Federal Government which have rendered most specific service to the mining industry are the United States Bureau of Mines and the United States Geological Survey, and

WHEREAS, It is desired that these agencies with such other agencies as render service to the mining industry shall be coordinated in a more effective way than is possible through the present organization of the Interior Department; and

WHEREAS, Senate Bill No. 4369, known as the Henderson Bill, provides for the creation of a Division of Mines and Geology within the Interior Department under an Assistant Secretary of the Interior to be appointed for that specific purpose by the President;

NOW, THEREFORE, BE IT RESOLVED, That the American Mining Congress in twenty-third annual session assembled in Denver, Colorado, November 15-19 inclusive, hereby expresses its approval of the principles contained in the Henderson Bill and urges the enactment by Congress of a bill embodying the principles therein contained.

Bureau of Public Works.

INTRODUCED BY CARL SCHOLZ.

WHEREAS, The enormous burden of taxation which must be met by the industry of the nation requires greater economy in the conduct of governmental affairs, the abolition of all useless expenditures, the highest efficiency in every governmental agency, and the prevention of all duplication of service and expenditure; and

WHEREAS, The engineering and construction services of the government are now lodged in various bureaus of the several departments;

NOW, THEREFORE, BE IT RESOLVED, That the American Mining Congress in twenty-third annual session assembled in Denver, Colorado, November 15-19, inclusive, hereby express its belief that a Bureau of Public Works should be created under the direction of which, so far as feasible, all engineering and construction features of the government service should be consolidated to the end that greater economy, higher efficiency, and more effective service shall be rendered, and all duplication of effort shall be prevented.

Oil Shale Experimental Station.

INTRODUCED BY G. R. DE BEQUE.

WHEREAS, For the past several years the domestic production of petroleum has been insufficient to satisfy the domestic requirements of the United States, and;

WHEREAS, The deficit between domestic production and consumption of petroleum is estimated to be more than 100 million barrels for the year 1920, making it necessary to import enormous quantities of oil from Mexico and to draw continually on our rapidly waning stocks of petroleum, and

WHEREAS, The present rate of increase of consumption of petroleum in the United States makes it appear that in the near future the nation will be largely dependent on foreign sources for its petroleum supplies, a condition which will place the nation in a dangerous position in time of war and tend to a loss of commercial supremacy in time of peace, and

WHEREAS, The nation's enormous deposits of oil shales represent a resource which, when properly developed, will give the nation a practically inexhaustible domestic source of petroleum, and

WHEREAS, The commercial development of these oil shales can be immeasurably facilitated by properly conducted scientific research, and

WHEREAS, The United States Bureau of Mines, a federal agency properly qualified to conduct such investigations, has requested of the Congress of the United States an appropriation for the construction, equipment and operation of an experimental station for such investigations, therefore

BE IT RESOLVED, That this, the twenty-third annual convention of the American Mining Congress does hereby approve of the plans of the U. S. Bureau of Mines for investigations on oil shale and further urges upon the Congress of the United States the necessity of favorably considering the appropriation requested.

Opposing Federal Control of Bituminous Coal Industry.

INTRODUCED BY GEORGE WOLFE, OF WEST VIRGINIA.

WHEREAS, For the past eleven months in certain sections of the United States, there has existed a shortage of bituminous coal, and

WHEREAS, It has been charged that certain tonnage of bituminous coal in certain sections of the United States has been sold by the producers at excessive and exorbitant figures, and

WHEREAS, Today in the minds of certain of our lawmakers exists a strong belief that government supervision and control of the bituminous coal industry is of earnest consideration, therefore,

BE IT RESOLVED, That the fuel supply problem, in so far as bituminous coal is concerned, is

one of transportation and that the recent evils of coal speculation were the result of such transportation shortage, and should not be charged against the coal producers who were helpless in this emergency, and

BE IT FURTHER RESOLVED, That we feel that no condition exists in the bituminous coal industry, at this time, calling for federal control of the bituminous coal mines of our country, such as has been advocated by Senator Calder of the Senate Committee on Reconstruction and that, if the industry is let alone that the present cooperation between transportation, producers and labor will continue, and the present high tonnage production will be maintained which will necessarily clear away certain evils heretofore complained of.

Against Pending Blue-Sky Legislation.

INTRODUCED BY M. B. TOMELIN AND ROBERT I. KERR.

BE IT RESOLVED, by the delegates to the twenty-third annual convention of The American Mining Congress, held in Denver, Colorado, November 15 to 19, 1920, that we are opposed to all proposed enactments now pending in Congress providing for so-called "Blue-Sky" legislation"

The McFadden Bill.

INTRODUCED BY THE GOLD COMMITTEE.

WHEREAS, The government of the United States is justly committed to the gold standard; and

WHEREAS, The maintenance of a healthy gold mining industry is absolutely essential to the maintenance of a gold standard; and

WHEREAS, The gold mining industry of the United States is in deplorable straits, having almost ceased to function, and it is necessary to apply immediate measures for relief; and

WHEREAS, The McFadden Bill, H. R. 13201, offers the best present solution of the problem;

RESOLVED, That The American Mining Congress, in convention assembled, heartily endorses the McFadden Bill, and pledges its support to the measure, and urges a like support on the part of all our citizens who have at heart the maintenance of the gold standard and the common welfare of the country.

Proposal to Amend Oil Shale Section of Leasing Law.

INTRODUCED BY H. H. SCHWARTZ.

WHEREAS, In various parts of the West, particularly in the states of Utah, Colorado, and Wyoming, there exist bedded deposits of sandstone, limestone, and other rocks impregnated with bituminous or similar organic matter in solid or semi-solid form which may be utilized commercially and which are not oil shales, and

WHEREAS, No provision for prospecting, developing, or leasing such deposits is made under the existing laws;

THEREFORE, BE IT RESOLVED, That The American Mining Congress recommend to the Congress of the United States that Section 21 of the Act of February 25, 1920 (Public 146), known as the Oil Shale Section of the Leasing Law, be amended so as to include all lands containing valuable deposits of bituminous or similar organic material in solid or semi-solid form.

Bi-Partizan Tax Board.

INTRODUCED BY TAX CONFERENCE.

WHEREAS, The immediate need of the present moment is a definite fixing of the past tax liability for each tax payer, especially for the war years, 1917, 1918 and 1919, and this need is emphasized by the present unstable business conditions; and

WHEREAS, This need for prompt final tax determination for the war years is so vital as to require immediate provision for final settlement of all unsettled cases for the years 1917, 1918, 1919;

RESOLVED, That The American Mining Congress recommend to the Federal Congress the enactment of a statute authorizing the President to appoint, by and with the consent of the Senate, a bi-partisan board of ten men, composed of lawyers, accountants, engineers and business men, who will sit for a period of one year, to pass upon and settle the cases of taxation arising during or consequent upon the war-time period of 1917 to 1919, both inclusive. The powers of such board to be of the broadest character; to summon witnesses, to compel the production of books and papers, to determine questions of fact and law, and to make assessments under both the general terms of the statutes and those special remedial provisions embodied in Section 210 of the Revenue Act of 1917 and Sections 327 and 328 of the Revenue Act of 1918.

The board to be given power to compromise taxes in cases where the need arises, and should be given a power which is not now provided for in our statutes, namely, to postpone the payment of taxes for reasonable periods, or to provide for their payment in installments where the board deems it necessary in order to prevent undue hardship on the tax-payer, requiring, of course, adequate security from the taxpayers to safeguard the interests of the revenue.

We strongly urge that the board shall be an independent body separate and apart from the Bureau of Internal Revenue and the Treasury Department.

The board should have authority to remand the case to the Bureau of Internal Revenue, with instructions how to close it, or on the other hand to summarily dispose of the case and determine the final assessment.

If, however, a determination and assessment is made in the case of any taxpayer and an agreement in writing signed by the taxpayer and the board that such determination and assessment shall be final and conclusive, then (except upon a showing of fraud, malfeasance or misrepresentation of fact materially affecting the determination or assessment thus made) the statute shall provide that the case shall not be reopened or the determination and assessment modified by any officer, employee or agent of the United States, and no suit, action or assessment shall be entertained by any court of the United States.

The board to be a large board, one composed of ten members since the work it will perform may be divided into three or four general classes. The full board should not be required to sit in every case; three members should constitute a sufficient quorum to hear and determine the case, although more members may sit on complicated or important cases. The decision in each case should be subject to the written approval of a majority of the board, including those members who sat on the case.

The board shall have the power to refuse to hear any appeals that they may deem frivolous or vexatious. It shall prescribe rules and regulations for its procedure and the hearing of cases. Proper recourse to the courts to lie from any decision of the board, by any taxpayer dissatisfied with the decision of the board.

A sufficient appropriation should be made to adequately compensate the members of the board and to enable the board to employ an adequate staff of clerks and assistants. In addition it should have power to call upon the Bureau of In-

ternal Revenue for such auditing or other assistance as it might require in any particular case.

We believe the energetic impartial operation of such a board, clothed with broad and ample powers suggested, would result in the settlement of practically all the cases of war taxation within a year, and leave the department free to carry on its current work. The expeditious settlement and assessments accomplished through the medium of such a board would save in interest alone many times the appropriation needed therefor.

Urging Repeal of War and Excess Profits Taxes.

INTRODUCED BY TAX CONFERENCE.

WHEREAS, The burdens created by the Excess War Profits Tax Law have become an excessive burden upon business and a deterrent to investment and the undertakings of new business enterprises;

NOW, THEREFORE, BE IT RESOLVED, That we most earnestly urge upon Congress the immediate repeal of the War Profits and Excess Profits Taxes.

Deduction and Depletion.

INTRODUCED BY TAX CONFERENCE.

WHEREAS, The Department of Internal Revenue, having under the 1909 Tax Law contended that the net proceeds of mines constituted profits and were all taxable without any deduction for depletion, basing such contention on the general practice of the mining industry at that time, and having succeeded in establishing that view in the courts;

BE IT RESOLVED, That it is the sense of this Congress that the rule now adopted by the Bureau of Internal Revenue in ascertaining the invested capital of mining corporations by which a deduction is made from profits for each unit of minerals removed since the commencement of mining operations down to the year 1916, regardless of actual conditions, actual facts and valuations of the mining property, is inconsistent and unfair; and

IT IS FURTHER RESOLVED, That this Congress take steps to present its reasons to the Bureau of Internal Revenue supporting an abrogation of such rule.

Tariff On Metals and Minerals.

INTRODUCED BY A. G. MACKENZIE, SALT LAKE CITY.

BE IT RESOLVED, By The American Mining Congress in Twenty-third Annual Convention assembled, that we favor the imposition at the earliest possible date of such United States custom duties or tariffs on metals, minerals, and metalliferous and mineral products, presented for entry into the United States from foreign countries as shall be sufficient to enable United States producers of like or similar metals, minerals, and metalliferous and mineral products, to meet such foreign competition and continue to maintain American standards of wages and living conditions.

Revision of Freight Rates On Ores.

PRESENTED BY CALIFORNIA METAL & MINERAL PRODUCERS' ASSOCIATION,
COLORADO CHAPTER, AMERICAN MINING CONGRESS.

COLORADO METAL MINING ASSOCIATION,
IDAHO MINING ASSOCIATION,
MONTANA MINING ASSOCIATION,
NEVADA MINE OPERATORS' ASSOCIATION,
NEW MEXICO CHAPTER, AMERICAN MINING CONGRESS.

UTAH CHAPTER, AMERICAN MINING CONGRESS.
WASHINGTON STATE METAL MINING ASSOCIATION.

WHEREAS, The continued production of metals and consequently the employment of large numbers of men as well as the profitable operations of the ore carrying railroads are all dependent, to a very large extent, upon reasonable and living freight rates; and

WHEREAS, Due to the peculiar character of the rate structure under which ores are moved, the rate advances of June 25, 1918, and of August 26, 1920, have resulted in placing an undue proportion of the burden of furnishing additional revenue to the carriers upon the metal mining, smelting and refining businesses;

THEREFORE, BE IT RESOLVED, That in the opinion of this Congress, immediate steps should be taken by the carriers and ore producers and shippers, jointly, to secure such readjustment and revision of the present ore rates as will permit of the continued operation of the metal mines and, at the same time, will give to the carrier a just and reasonable compensation for the services rendered by it.

Approving Mining Congress Stand on Minerals Separation.

INTRODUCED BY GILBERT H. MONTAGUE.

WHEREAS, On November 12, 1918, the Federal Trade Commission commenced a proceeding against the Minerals Separation North American Corporation; and

WHEREAS, The American Mining Congress has lent its assistance in developing and presenting evidence in connection with this proceeding;

NOW, THEREFORE, BE IT RESOLVED, By The American Mining Congress in Convention assembled, with members and representatives present from every mining state in the Union;

That The American Mining Congress hereby indorses and commends the proceeding of the Federal Trade Commission against the Minerals Separation, North American Corporation, and indorses and approves the action of the officers and counsel of The American Mining Congress in supporting the commission's proceeding; and

BE IT FURTHER RESOLVED, That The American Mining Congress hereby pledges the assistance of its officers, its counsel, its chapters, and its members to assist the Federal Trade Commission in this proceeding.

War Minerals Relief Appropriations.

INTRODUCED BY WAR MINERALS CONFERENCE.

BE IT RESOLVED, That The American Mining Congress urge the retention in statu quo of the appropriation provided in Section 5, of the Act of March 2, 1919 (40th U. S. Statutes, page 1272), until such time as further congressional legislation be enacted and the claimants under this said Act of March 2, 1919, shall have received the relief intended to be granted thereunder, and that the Executive Committee of the Board of Directors of The American Mining Congress are empowered to take such action in this behalf as they deem necessary and proper.

Right of Appeal for War Mineral Claimants.

INTRODUCED BY WAR MINERALS CONFERENCE.

WHEREAS, In Section 5 of the Act of March 2, 1919 (Fortieth Statutes, page 1272), provision was

made to pay producers of chrome, tungsten, manganese and pyrites net losses suffered by them in an effort to comply with the requests or demands of the Governmental agencies mentioned therein to produce the said minerals required by the exigencies of the war and appropriating the sum of \$8,500,000 therefor; and

WHEREAS, Under the constructions which have been placed upon this law, many claimants thereunder protest that they have not received the relief this law was intended to administer; and

WHEREAS, The present administration of this Act is approaching completion;

THEREFORE, BE IT RESOLVED, That the American Mining Congress urge the immediate passage of H. R. 13091 by the House of Representatives, which bill has already been passed by the Senate, and been favorably recommended to the House by unanimous report of the Committee on Mines and Mining, and accords to claimants who have not received adequate awards under this Act the right of appeal to the Court of Claims from the decision of the Secretary of the Interior.

Urging Passage of Timberlake Bill.

INTRODUCED BY TARIFF CONFERENCE.

BE IT RESOLVED, That the American Mining Congress favors the speedy passage of the Timberlake Bill (H. R. 4437) for the protection of tungsten and its products, which has passed the House, and is now pending upon the calendar of the Senate, with a favorable report from the Senate Finance Committee.

To Prevent Dumping.

INTRODUCED BY TARIFF CONFERENCE.

BE IT RESOLVED, That the American Mining Congress support legislation to prevent the dumping of the products of foreign mineral industries on the shores of this country at prices so far below the cost of domestic production as to make competition of domestic mineral industries impossible.

Better Information On Mines and Quarries.

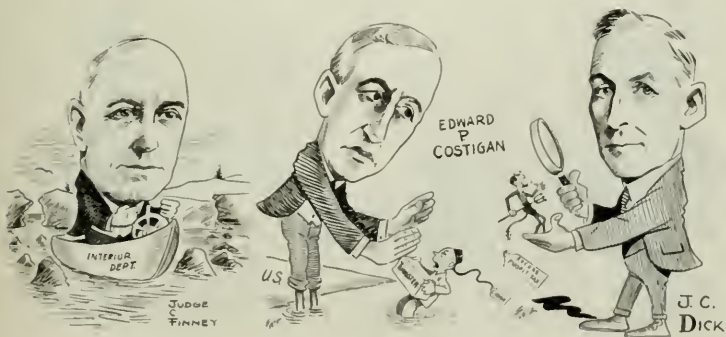
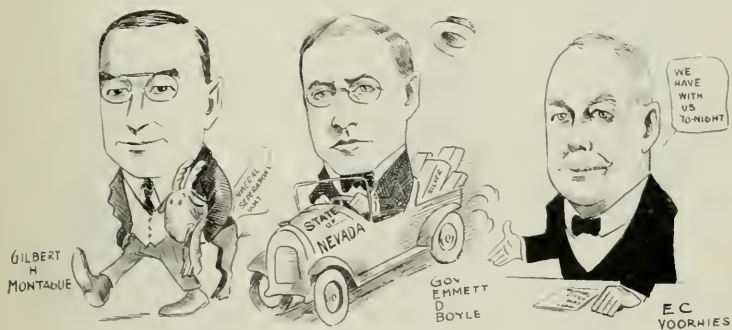
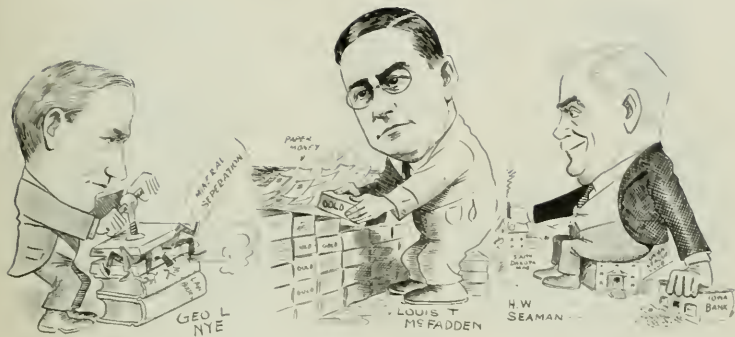
INTRODUCED BY A. G. MACKENZIE.

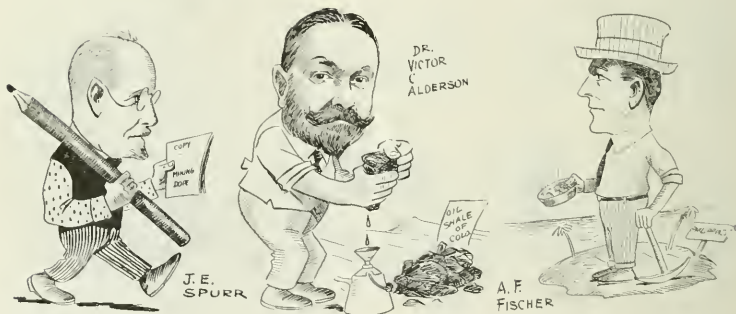
RESOLVED, By the American Mining Congress in convention assembled, that we favor and will cooperate with such joint action by the Federal Congress, the Bureau of the Census and such other governmental agencies as may beneficially participate therein to the end that more informative data than those now available be collected, compiled and published by the national government, and that if found necessary to accomplish this result, a special census of mines and quarries be authorized and made.

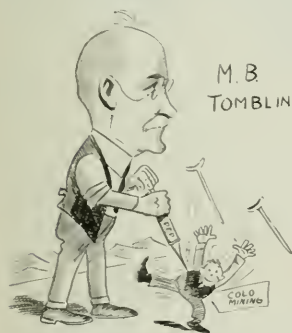
For Reductions in Freight and Price Charges.

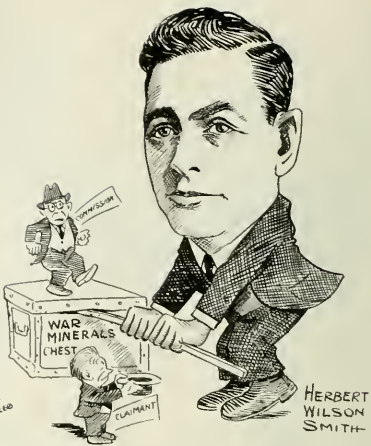
INTRODUCED BY W. J. LORING.

BE IT RESOLVED, That in order to bring about a return to normal conditions as rapidly as possible, it is the judgment and request of the American Mining Congress that the manufacturers and sellers of mining supplies and equipment reduce prices and public carriers reduce freight charges in accord with the present economic trend, to the end that the mining industry may resume its normal activity.









ACCOMPLISHMENTS OF THE NATIONAL MINE TAX CONFERENCE

That the problem of federal taxation is not concerned alone with the urgent need for reformation of the revenue laws was developed at the National Mine Tax Conference as part of the annual convention proceedings of the American Mining Congress at Denver.

No less important to industry is the prompt and decisive determination of war tax liabilities for prior years. That the burden of delay and uncertainty may be eliminated the convention proposed, by the unanimously adopted resolution published elsewhere in this issue of the JOURNAL, the creation of an independent, bi-partisan board of ten special commissioners of revenue, vested with sufficient authority to pass upon and settle cases consequent upon the war-time period of 1917 to 1919, inclusive.

The recommendation followed a careful study of the subject of delayed assessments and accumulated tax controversies by the Tax Committee of the American Mining Congress and the submission to the conference of a special report. The committee observed that:

"The numerous changes in the personnel of the bureau have increased the delay and uncertainty in the settlement of back taxes and there is now no prospect of the excess profits taxes being finally settled within any reasonable period, unless new and radical steps are taken.

"Many large taxpayers, employing expert talent to present and argue their cases, have been able to settle their taxes with the department for the war period and up to the present date. But thousands of smaller taxpayers find their cases still unsettled, even so far back as 1917, and are either worrying over the amount of additional taxes they may be called upon to pay, or are blissfully unconscious of the claim which the government may at any moment assert against them.

Existing Business Uncertainty.

"By reason of the large amounts involved in excess-profits taxes, this situation leads, on the one hand, to extreme uncertainty in business, to hesitation in entering upon new transactions, to a tendency towards conservation of capital in the form of cash or securities. On the other hand, many taxpayers are now risking their funds in new enterprises, and when the government eventually comes to assert its claim to a part of those funds it may find that they have been dissipated or invested in such assets that liquidation cannot take place except at great loss to the taxpayer. The difficulty of borrowing money to pay taxes is now extremely great, and, no doubt, will increase as time goes on.

"Many taxpayers have come forward with the facts pertaining to their cases and have settled the matter of their tax liability for the war period. Many others have held back; postponing and delaying consideration of their cases as long as possible. Your committee believes we must see to it that these delinquent citizens be made to bear their just share of the war tax burden without further quibble and delay. Still other taxpayers have, by reason of circumstances surrounding their particular cases, been compelled to pay an unjust amount of war taxes and they should receive prompt and effective relief. Some cases are indeed impossible of settlement within the strict terms of the statute. We may as well recognize this fact and proceed directly to a com-

promise settlement of such cases on terms fair to the taxpayer and government alike. These considerations, and in fact every consideration of both government and taxpayer, points to the absolute necessity of cleaning up the situation which now confronts the business world and hampers the Bureau of Internal Revenue in the difficult task of carrying on its current business in a post-war period that has many problems of its own.

Why Not Clean Up the Taxes?

"Cleaning up the back taxes for the years in which the excess-profits tax was in force is an extraordinary and complex proposition. It is analogous in some respects to the necessity of clearing up the multitude of claims against the War and Navy Departments of the government, to which Congress has given special attention. If Congress has deemed it advisable to take extraordinary steps to settle claims of citizens against the government why should it not take such steps to finally dispose of the old and indefinite claims which lie against taxpayers for the same period and arising under somewhat similar conditions?"

"We respectfully submit that the problems of our extraordinary wartime taxation should be solved with the greatest diligence, and that this cannot be done by leaving the matter to the routine activities of the Bureau of Internal Revenue, limited as it is in its operations by strict statutory and departmental rules and procedure all tending to delay and indecision."

It is recommended that the board of special commissioners should consist of lawyers, accountants, engineers and business men, with powers sufficiently broad to summon witnesses, compel the production of books and papers, determine questions of fact and law and to make compromise assessments. A further point of interest and importance is the proposal to allow the commissioners to postpone payment of taxes for reasonable periods, or to provide for payment in installments where necessary to prevent undue hardship. That their accomplishments should not become confused and delayed by inconsequential disputes it is provided that the board should have the power to refuse

to hear appeals deemed "frivolous or vexatious," an important discretionary privilege exercised by a somewhat similar body which now operates as a part of the English revenue system.

Advantage to the Government.

It is believed that Congress will favorably entertain the proposal, as the cost of maintaining such a special board for a limited period would prove negligible compared with the interest alone on expedited revenue receipts. The relief to the Revenue Bureau, enabling it to overtake current work, is presented as an additional practical consideration.

Following its action on means to effect a clearance of accumulated taxes, the Tax Conference passed on to a consideration of the present and future problems of taxation of the mining industry. The proceedings were conducted by the Tax Committee, headed by Paul Armitage of New York and by Robert G. Wilson, chief of the Tax Division of the Congress, Mr. Armitage and Mr. George E. Holmes alternating as chairmen.

One of the most important addresses was made by J. C. Dick, chief of the Subdivision of Natural Resources of the Bureau of Internal Revenue, who otherwise co-operated in the successful endeavor to limit the proceedings to discussions of the most practical nature.

One of the most interesting points raised by Mr. Dick was the method of determining annual allowances for depletion, and the question whether the present procedure can be improved and yet remain practically equitable. Mr. Dick inclined toward the belief that keeping the depletion account on a basis that would represent the ratio of cost to known value of ore reserves, namely, on a percentage of profits basis, would more accurately measure the true depletion, as opposed to the present unit of extraction method.

"Suppose we have a mine of 1,000,000 tons of ore in 1920; that we can foresee the economic conditions that will prevail during the next ten years," said Mr. Dick, "and can ascertain definitely that in 1921 to 1923 the operating profits will be \$1 a ton, from 1923 to 1926 we can make \$4 a ton profit, from 1926 to 1927 \$2 a ton profit, and from 1927 to 1930 \$1 a ton profit or a total of \$2,000,000 operating earnings. Let us further assume that conditions are such that we must mine at the rate of 100,000 tons annually and that we had paid for the mine \$1,000,000. Would we deplete the mine at \$1 a ton annually or on the basis of 50 per cent of the profits?"

Views of J. C. Dick.

"The fair market value, as determined by the present value method, may be a close approximation of the truth, but a depletion deduction from income, based upon a percentage that comprehends the relationship of cost and earnings, or the anticipated spread of profits that was used in the calculation for valuation, more accurately expresses the true depletion that the ore reserves suffer annually.

"In the illustration used above, whether you take 50 per cent of your income as an annual deduction for depletion, or deplete on a unit method basis of \$1 per ton, you obtain a million dollars of capital value through depletion deductions during the ten years. But as you did not sustain like depletion annually, would it not have been more logical to have taken depletion on actual amounts sustained, or 50 per cent of the profits. If it were logical in this case, it seems to me it would still be more so where the ore reserves, cost of production and sales price of metals are but an approximation.

"The percentage of income as depletion deduction will return to the taxpayer as a much closer approximation to the intrinsic value of the property than a unit method of depletion would, and in any appraisal method the closer the fair market value approaches the intrinsic value, the more accurate was the appraisal. Likewise, as the percentage method of depletion more closely approaches the true depletion, to that extent does the true depletion approach the reasonable depletion mentioned in the law."

However, Mr. Dick explained that the present method of determining depletion allowances is governed by Regulations 45, "which is still the primary, as it is also the post-graduate, textbook in the Internal Revenue school of taxation," and that in his present capacity his work is only to assist in the administration of the law as it stands.

Article 839, Regulations 45, afforded grounds for considerable discussion and finally a resolution, adopted by the convention, protesting against the inconsistency and unfairness of the Revenue Bureau's rule. Article 839 provides that "depletion, like depreciation, must be recognized in all cases in which it occurs. Depletion attaches to each unit of mineral or other property removed, and the denial of a deduction in computing net income under the Act of August 5, 1909, or the limitation upon the amount of the deduction allowed under the Act of October 3, 1913, does not relieve the corporation of its obligation to make proper provision for depletion of its property in computing its surplus and undivided profits."

Depletion and Invested Capital.

A carefully prepared paper on the subject was presented by William B. Gower, the well known New York accountant and writer on accounting subjects, who deposed that "the depletion rule adopted by the bureau in 1917, while suitable and valid for its purpose of administering recent income and profits tax laws, has no validity apart from that purpose. The rule is an artificial product of income tax administration, which has no bearing or effect upon permanent principles of accounting, or upon the established accounting rules for ascertaining the true profits or losses derived from mining. Much less may the administrative depletion rule be regarded, as the bureau appears to regard it, as embodying accepted accounting principles which may be applied to a revision of the profit accountings of mining corporations for a generation back, for the purpose of removing an imaginary taint of original capital from the residue of their past profits, and by this means deprive them of scores of millions of dollars of invested capital.

"Income and profits, as was said by the Supreme Court in the Stratton case, must be, and can only be what are 'commonly dealt with in legislation' as income and profits. They are to be determined by considerations which have their influence upon men of affairs, and not by actuarial calculations of 'pure' income or subtle mathematical abstractions."

The cause and effect of the departmental rule from an accounting view led to a discussion of the legal aspects of the question by Mr. Armitage, Mr. Blackman and others. Apart from the technical and statutory considerations, however, there arose the simple equitable question of the enforcement of reduction of invested capital by amounts rejected by the courts prior to 1913 as improper deductions from income.

The conference found itself indebted upon several occasions to the presence of Robert N. Miller of Washington, D. C., former Solicitor of Internal Revenue, who made several addresses and entered freely into the discussions.

In his principal paper, "The Problem of Next Year's Taxes," Mr. Miller observed that "it is regrettably clear that the amount to be raised by taxation for 1921 is no less than for 1920. Laws can be changed at this time only by equalizing the burden, not by lightening it."

"The crying present need of every business of every kind is to find out once and for all what its tax bill to date is," he continued. "At the present moment there is hardly a single corporate taxpayer that is sure all its tax is paid. The suspense in some cases

is destructive of opportunity and fatal to successful operation. The Department realizes this. The need can not be supplied without Congressional action.

As Seen by R. N. Miller.

"I have been inside the Bureau of Internal Revenue and I have been outside, and I can say with emphasis and conviction that the delays and denials, the uncertainties and the harshnesses, which would test the sanity of Solomon and the temper of a tar baby, are due, primarily, to the unexampled difficulties of the problem. Congress has not given to the Commissioner of Internal Revenue, or to any one else, the power to decide what tax would be fair for each taxpayer. It has given him the task of administering a law which, with a few exceptions, is laid down unchangeably.

"We cannot afford to cut expenses in the administration of the tax law, but in other government expenditures substantial reductions seem possible. The greatest hope for tax relief lies in that; if our government does not spend so much, it will not have to collect so much in taxes. There is here a great and difficult field for constructive statesmanship; whoever can diminish the annual expenditure of the government will earn the gratitude of his fellow citizens."

Mr. Miller made many suggestions to taxpayers to prove helpful in their relations with the Revenue Bureau, but admonished them to avoid any act which could be regarded as an attempt to exert influence. Any action which might be construed as the exercise of influence from any source is certain to be regarded as an admission that the case is not a strong one on its merits.

R. C. Allen, vice president of the Lake Superior Iron Ore Association and a member of the Tax Committee of the Mining Congress, presented and elaborated upon the tentative report of the Allied Tax Committee of the National Industrial Tax Conference. Mr. Allen explained the conclusions upon which the voluminous report, which recommends substitutes for the excess profits tax, was founded, and described the difficulties of the task.

The Allied Tax Committee, upon which the Mining Congress is well represented, is now engaged in the preparation of its final report, to be submitted to the Third National Tax Conference in New York early in January. The tentative report, upon motion of the Denver conference, was referred to the members of the Mining Congress with request for suggestions and criticisms to be filed at once with headquarters at Washington. The conference passed to the general

convention a resolution, subsequently unanimously approved, calling for the repeal of the war profits and excess profits taxes.

Other authorities who addressed the Tax Conference were George E. Holmes, author of "Holmes on Taxation," New York; T. O. McGrath, accountant, Bisbee, Arizona; Cass Fisher, petroleum geologist, Denver, and a number of convention delegates who proved students of tax problems.

Mr. McGrath lucidly explained the application of the principle of "realized appreciation" to the computation of invested capital, illustrated by a carefully prepared chart. He pointed out that many mining companies, unfamiliar with the principle, had failed to take advantage of the benefit of the increased capital due thereto.

1919 Peat Production.

There was a decided decrease in both the quantity and value of domestic peat marketed in 1919, according to the recently issued report of K. W. Cottrell of the U. S. Geological Survey. The total production for the year was 69,197 tons valued at \$705,532, or an average of \$10.20 per ton. This was a decrease of 35 per cent in quantity and 33 per cent in value, but an increase of 44 cents in the price per ton compared with 1918.

As in previous years almost the entire output was consumed either as a direct fertilizer or as a nitrogenous ingredient of commercial fertilizer. Of the total production 54,690 tons valued at \$557,240 were used in this manner.

MINES BUREAU OFFICIALS CALLED TO MEET AT BERKELEY

A meeting of the superintendents of all experiment stations conducted by the Bureau of Mines west of the Mississippi River will be held in Berkeley, California, January 24-25. The superintendents will report on the status of their work and outline plans for the future. The conferences will be directed by E. A. Holbrook, assistant director of the Bureau of Mines, and Dorsey A. Lyon, chief of the mines experiment stations.

Soviet Gold Outlawed.

In order to make impossible the use of Bolshevik gold for propaganda or any other purpose in this country, the Treasury Department has instructed its assay offices to refuse all Russian gold so long as there is a shadow of suspicion that it is of Soviet origin.

FLOTATION CONFERENCE

At the Flotation Conference, which was one of the largest and most interesting parts of the Denver convention, addresses were made by W. C. Russell, Denver mining engineer, and George L. Nye and Gilbert H. Montague, counsel for the American Mining Congress, covering every phase of the Minerals Separation controversy, particularly the sensational evidence brought out at the Federal Trade Commission's investigation of Minerals Separation North American Corporation.

Alfred A. Cook, counsel and director of the North American Corporation, spoke two hours, but said he did not care to reply to the charges because the Federal Trade Commission investigation was still continuing. He devoted considerable time to proving that Minerals Separation was loyal during the war and that it had no German connections.

The sessions of the Flotation Conference were enlivened by sharp discussion as to whether Minerals Separation licensees would be required to continue paying royalties after the patent rights on the particular Minerals Separation processes which they were using expired. Mr. Cook admitted he was uninformed on this question. At the suggestion of the conference he telegraphed his New York office and received a reply to the effect that licensees would not be compelled to continue paying royalties after the expiration of patent rights on the particular processes they were using. Mr. Cook and Minerals Separation were warmly praised and everybody was happy until subsequent discussion developed the existence of a "joker" in the concession.

The "joker" is contained in the license agreement, one clause of which provides that a licensee would be obliged to continue paying royalties if Minerals Separation believed that the process he was using came under any of the scores of other patents held by Minerals Separation, and that by the terms of the license agreement every licensee agreed never to dispute or object to any interpretation which Minerals Separation might place on these additional patents. The high hopes which Mr. Cook's apparent concession raised among his listeners were dispelled and the discussion closed with the peremptory statement by Mr. Cook that he had nothing further to say or concede.

The American Mining Congress passed strong resolutions urging the Federal Trade Commission to press to the limit its proceedings against Minerals Separation.

MINERALS SEPARATION CASE CONTINUES—SOME VERY INTERESTING EVIDENCE

During recent months the Federal Trade Commission has held further hearings in San Francisco, Salt Lake City and Denver in its proceeding against Minerals Separation, Ltd., calling thirty-one witnesses, taking fifteen hundred pages of testimony and introducing a thousand pages of exhibits to support its contention that the Clayton Act and the Federal Trade Commission Act had been violated. Claude R. Porter and Gaylord R. Hawkins, the commission's counsel, attacked the respondents from many angles, with an effectiveness which may be inferred from the comment of the Minerals Separation counsel that the action seemed to be becoming "a matter of considerable importance."

Licensees of Minerals Separation who were called to the witness stand gave

illuminating reasons for having taken a license. Non-licensees testified to the prohibitive royalties demanded. Men prominent in the mining world, such as T. J. Hoover and T. A. Rickard, charged under oath that Minerals Separation had retarded the development of flotation. Owners of patented flotation machines told of contracts submitted by Minerals Separation, asking twenty-five per cent of their profits. The chief engineer of Minerals Separation boasted of the value of their technical knowledge, and licensees testified to seeking and obtaining help from the Bureau of Mines and from outside engineers after Minerals Separation's technical knowledge had failed.

"A highly dishonorable proceeding," "a gouge," "a hold-up," were among the terms applied by an official of a Minerals Separation licensee to an attempted increase of royalty rates from three and one-half or four cents to twelve cents. This licensee was then managed by Herbert Salinger, who, by his own admission in a letter put in evidence, had "secured by devious and most unethical means a sample of X cake" for John Ballot, president of Minerals Separation North American Corporation, and who directed espionage activities in behalf of that corporation according to testimony of Mr. Ballot and also Mr. Gregory, who is vice-president of the corporation.

According to the president of this licensee, "our understanding was that it (the royalty) would be a three and one-half or four cent rate" and "that (agreement) was with Mr. Dick." With reference to the rates given Mr. Dick, who was an official of the licensee company, Mr. Nutter, Minerals Separation's chief engineer, wrote to Mr. Salinger: "I see no reason for expecting that the terms would be altered, as the material remains the same." A month later, Mr. Nutter wired to Mr. Salinger: "According to telegram from New York if you will undertake to guarantee six cents per ton minimum matter can go through without delay, otherwise royalty will have to be taken up with London." Mr. Salinger protested vigorously against this increase, but Minerals Separation was constructing flotation machines for him, and after receiving another wire from Mr. Nutter stating that the signing of the six-cent license "will facilitate construction," Mr. Salinger agreed to sign. Mr. Nutter then refused to ship the flotation machine until he received cash and notes in payment. This demand was also complied with, because, according to the testimony, all their other equipment was already on the road.

A month after this jump to six cents, Mr. Nutter wrote Salinger: "The London Board refuse to agree to the six-cent

minimum royalty provided for—and insists that this material pays a flat royalty of twelve cents per ton." Mr. Salinger was told to sign "if you are not to be delayed in starting," and was at the same time informed that the machine was shipped, but to manufacturer's order. This was followed by a wire from Mr. Nutter, stating the machinery would be released only upon execution of the twelve-cent license, and another stating that "London's attitude" was final.

"It was altogether unfair and improper to try and increase it (the royalty) two hundred per cent, or up to twelve cents," declared the president of the licensee company in his testimony before the commission. "We considered it a gouge, a hold-up on the part of his company to attempt at that stage of the game to force us into paying a higher royalty by withholding the machinery that we had bought and paid for."

The licensee company refused to be "held up" and replevined the machinery, and Minerals Separation "finally agreed to the six-cent license."

"Patents Cover Flotation."

Dr. Gregory, testifying before the commission in New York, declared that the Minerals Separation system "is no monopoly for anybody"; but Mr. Nutter, chief engineer of Minerals Separation, North American Corporation, testifying in San

Francisco, stated: "I believe that our process patents cover, broadly, the commercial application of flotation, and where a commercial operation is going on, that is, using flotation, that is presumptive evidence to my mind that they are infringing some one of our patents. Any oil flotation wherein they make a froth, that is pretty apt to come under one or more of our patents.

"I think I told him that he knew they were infringing," continued Mr. Nutter.

"How were they infringing?" asked the commission's counsel.

"Well, using flotation," was Mr. Nutter's reply.

What Is Infringement?

This fairly illustrates the testimony of Mr. Nutter and his assistants on the subject of what constituted infringement of Minerals Separation patents. While they made general claims of a sweeping nature as to what their patents cover, and referred broadly to their sixty or seventy patents, they all disclaimed specific knowledge as to what the various patents actually covered and wherein operators infringed them.

"Haven't you taken up with these infringers the question as to what constitutes infringements?" asked the commission's counsel.

"I don't recollect that has ever come up. I think it has always been taken for granted by both sides that they were infringers, replied Mr. Nutter. "They know well enough they are infringing; we don't have to tell them."

"What process did the Mining Company infringe?" Mr. Nutter was asked.

"Well, I would not be able to answer that definitely," replied Mr. Nutter, "because I have never been in their place. I understand they are using the Janney machine and making a concentrate by means of oil flotation. That is about the only idea I have of it, which is presumptive evidence that they are infringing, according to my point of view."

"Which of your seventy patents, either process or apparatus, in your opinion is the Mining Company infringing?" asked the commission's counsel.

"I have not enough knowledge to say about that one way or the other, but the fact that they are using flotation is presumptive evidence to me that they are infringing," replied Mr. Nutter.

"And you then put them on your infringement file?" continued the commission's counsel.

"Certainly," answered Mr. Nutter.

"You can tell infringer," said Mr. Nutter instructing his field representatives, "that it is impossible for him to use more than one per cent of oil without infringing certain of our other patents, such as the solution patent, and they will have to settle sooner or later on a basis of some one of our patents in any event."

Infringement Lists.

"Our sources of information," Mr. Nutter testified, referring to so-called infringers of Minerals Separation patents, "were the technical press, the Mines Handbook and information given to us from time to time that we pick up in the different mining fields. We have gone on the theory that no man can build a mill or build improvements to the mill without its getting sooner or later into the news columns of the technical press or local papers.

"We have made up a list of infringers, of people using flotation that we check up from time to time, and sometimes it is incorrect, and sometimes it is correct," continued Mr. Nutter.

"Every user of flotation, not a Minerals Separation licensee is on our infringement list.

"There are dozens of names on this list of those who merely experimented with flotation."

Counsel for the commission asked Mr. Nutter whether the names on the list were all infringers.

"My opinion is that they are all infringers," Mr. Nutter replied.

Under questioning from his own counsel, Mr. Nutter was asked if there were not 250 to 350 infringers. He replied, "Well, there are possibly that many names on our preliminary infringement list. I don't think there are that many actually operating the infringements of our patents. I should think something less than 100, perhaps."

Letters were sent by Minerals Separation's patent counsel to the companies on the infringement list notifying them of infringement and demanding an accounting if they wished to avoid a legal action. Concerning these letters, Mr. Nutter testified: "I think that those letters which were sent out were before any of these field investigations were made. I think those were based mainly on what we had clipped from technical papers."

What the Royalty Buys.

Throughout the hearings, officials and employees of Minerals Separation have emphasized the benefits to be derived from sign-

ing a license and paying the royalties demanded.

"It is our belief," said Mr. Nutter, "that our technical knowledge of the use of flotation alone, if there were not any patents at all, is worth more than the royalty to our licensees—just our knowledge of the technique."

To ascertain the value to the mine operator the government counsel questioned some who had received the benefit of this "technical knowledge" of Minerals Separation. One licensee sent samples of ore to Mr. Nutter to be tested, and was informed, "From the tests we have so far made it can be assumed that from the ores amenable to flotation I think a little bit better than 90 per cent can be expected in a concentrate." This report encouraged the licensee, and a mill was accordingly erected under the directions and plans of Minerals Separation.

"After you started the mill, what recoveries did you make?" asked the commission's counsel.

"We made very poor recoveries: in July, we made 54 per cent recovery; in August 62 per cent, in September 60 per cent."

A call for assistance was sent to Minerals Separation, and several suggested changes were promptly made, but there was no lasting improvement. The licensee then wrote Mr. Nutter "very earnestly," because he felt that "they were largely responsible, and that they should accept the responsibility of getting us on our feet," but no help came. The licensee communicated with Will H. Coghill, of the United States Bureau of Mines. Mr. Coghill said the ore was being ground too fine. Minerals Separation had complained that it was not ground fine enough. Under Mr. Coghill, the ore was coarsely ground and the oils changed and in two months the recovery had increased from 60 per cent in September, under Minerals Separation direction, to 80 per cent in November, under Mr. Coghill's direction, according to the testimony.

The "Burdensome Charge."

Mr. Nutter's private views on the reasonableness of the royalty were given in a letter to North American Corporation: "I am becoming more and more convinced that our royalties are too high, and am getting together data which I think will show that we are losing out financially through charging a royalty which is considered too high."

T. J. Hoover, whose experience with flotation dates back to the early days, and who is recognized as an expert on mining processes generally and the flotation process in particular, stated: "A careful inspection

of the royalties charged by the flotation process, compared with the royalties charged elsewhere in the metallurgy industry, convinces me they are excessive."

A licensee of Minerals Separation testified that his relations with Minerals Separation had been pleasant. "I understood you to say," inquired the Mineral Separation counsel, "that your relations with the Minerals Separation Company under your license agreement were pleasant?" "Yes," was the gratifying answer. "And you are entirely satisfied with your contract?" continued the Minerals Separation counsel, "except that I think the royalty is too high," was the reply. "Under present conditions we regard it as entirely too high. When I am not making any money at all, it becomes a very burdensome charge."

Even Minerals Separation field men who testified disclosed the dissatisfaction among operators on this point. "Tried to get them to take up the proposition of securing a license with Minerals Separation Company," said one Minerals Separation representative, "and they told me that it would be practically impossible to pay a royalty of two-fifths of a cent a pound at the present price of spelter, at that time, and be able to operate flotation under those conditions, that at the price of zinc at that time they would have to discontinue use of flotation." Another Minerals Separation representative told of an operator who "said frankly that he could not afford to take a license and pay the royalty." Similar statements were made by half a dozen other witnesses, who variously characterized the toll levied by Minerals Separation as "prohibitive," "exorbitant," "excessive" and "a hold-up."

"Monstrous Claims."

"I became impressed with the fact that the claims of this company were so monstrous," testified T. J. Hoover, "and so in excess of the claim that they had previously made that I considered I had a serious duty to perform." Part of this serious duty was to make public a treatise on flotation written by two prominent Minerals Separation engineers, Sulman and Plcard, in 1905 or 1906, and given to Mr. Hoover by Sulman. It had been withheld by Mr. Hoover because of the "iniquitous contract" he had with Minerals Separation, which imposed secrecy upon him even after his resigning from the company. Mr. Hoover termed this feature of the contract "immoral and illegal," and "an iniquitous slavery," which has been a "constant burden and a handicap in my professional career."

The important bearing of the Sulman

and Picard treatise on the question of the merits of Minerals Separation claims with respect to flotation was developed by the testimony.

"The process of concentrating ores by means of flotation," Mr. Nutter had said, consists of "agitation, aeration and froth formation by the use of oils or soluble and certain other reagents. That, in a general way, is what we consider our process."

Mr. Hoover pointed out that Sulman and Picard in 1905 discussed in detail three flotation processes in addition to the Minerals Separation process—the Potter-DelPrat, the Froment and the Elmore vacuum; that all three processes formed a thick, coherent froth; that all three processes utilized air or gas as the exclusive lifting force; that all three processes involved the use of "a small quantity of oil, so minute as to form an infinitesimal film coating, which to all intents and purposes becomes a part and parcel of the particle in the mineral"; that two of them utilized the action of acid on carbonates.

Notwithstanding the fact that the Minerals Separation process was merely one of four flotation processes, all successful commercially, Mr. Nutter claimed that the use of any form of flotation infringes some Minerals Separation patent. Mr. Hoover testified that "the general statement that anyone using the flotation process was an infringer," and "all the statements of counsel and witnesses for the Minerals Separation in the various lawsuits would be classified under that same heading, as being inconsistent with the statements of fact in the book" (the Sulman and Picard treatise).

Various Flotation Processes.

Mr. Hoover visited Australia in 1907, in behalf of his employer, Minerals Separation. "I found on my arrival in Australia," he said, "four distinct flotation processes in operation: One known at that time as the Potter-DelPrat, one known as the DeBavay process. Minerals Separation process is the third, and the Elmore vacuum process is the fourth. I should say that the DelPrat process was installed on a very large scale for those days; it was the largest in the world. During the year 1908 the Potter-DelPrat process produced 65,000 tons of zinc concentrates; the DeBavay process produced 23,000 tons of zinc concentrates, and the Elmore process produced 50,000 tons—(total) 138,000 tons. The two (Minerals Separation) plants combined produced 127,000 tons of zinc concentrate."

Questioned concerning the present status of these processes in Australia, Mr. Hoover said: "The Potter-DelPrat plant at the

time of the closing down by the recent strike of Broken Hill was in good working order, working on as large a scale as it ever had in any of its period. The DeBavay had grown to be the largest plant in Australia, treating materials still successfully, and I have reason to believe is still in good working order. I have sort of lost track of the Elmore process in Australia."

Mr. Hoover further testified that each of these processes is capable of use in the competitive field generally; that for one kind of ore one process might be best adapted, while for a different ore another process would give the best results.

"Many Different Methods."

T. A. Rickard told of the circumstances surrounding the publication of Hoover's book on flotation, which was brought out by him. "I realized it was a book for which there would be a big demand. I realized he was an extremely well-fitted man to write such a book at that time. I told Mr. Hoover I would not be a party to the publication of the book without the consent of his former employers, but that I would try to get their consent. Mr. Hoover acted most frankly and fairly in the matter and agreed that this inspection should be made. The manuscript was sent to New York, to Dr. Gregory, I was told, and they had a cat and dog time of it for three or four months. The corrections were all accepted in good faith by Mr. Hoover and by me, as publisher, and the book was forthwith published." Thus Hoover's book was subjected to censorship by Minerals Separation although he was no longer in its employ.

"Flotation is one of the most remarkable methods of ore reduction that has been devised by man," said Mr. Rickard, "but of course, this does not apply to the one, but to the many different methods of doing it."

"The advancement of the art of flotation in America," said Mr. Rickard, "has been extremely slow, considering the importance of it." "The progress of the art in this country has been retarded by the attempt to impose secrecy upon the experiments and operations of those using the process, by means, of course, of this license agreement and other methods, but more particularly by the effort to tie individual metallurgists to the chariot-wheels of this patent-exploiting agency." Mr. Rickard mentioned a contract offered to an engineer by Minerals Separation, "tying him to secrecy forever, the rest of his natural life," which was the case of the contract signed by Hoover. "It was an agreement that impressed me very greatly at the time as being detrimental to the art of metallurgy!" "I thought it was an iniquitous thing."

Cross-examination of Mr. Rickard by Mr. Cook, counsel for Minerals Separation, was extremely brief. It included the following:

"Mr. Cook: You are a native Englishman?"

"Mr. Rickard: I am a native of Italy, but a man is not a horse because he is born in a stable. My father was a Cornishman."

"Q. But a man may be always a gentleman?"

"A. Yes, sir, even under extremely difficult conditions."

Mr. Cook also elicited from Mr. Rickard this statement: "I have denied from the beginning the invention by Minerals Separation. I don't believe that Minerals Separation invented the process of froth—I believe they only contributed to it. I believe they were not the sole inventors of the froth process, but very important contributors to the development of the process."

"Unfair Competition."

The commission put in evidence a leaflet circulated by the Minerals Separation Company, purporting to give the results of tests made at the Ohio Copper Company's plant of the Minerals Separation machine and the Janney machine. Of this a witness testified: "Mr. Schultz told me that while in the employ of the Minerals Separation Company he had circulated these reports freely and had stated that they were results of the tests made at the Ohio mill." The report covered a period of two weeks, and the figures given on percentage of recoveries, costs, etc., showed an apparent decided superiority on the part of the Minerals Separation machine. "Mr. Schultz would say that the Minerals Separation machine was a better machine than the Janney machine, and that the results obtained on this test showed that the Minerals Separation machines gave better results than the Janney machine."

The fairness or unfairness of this leaflet and of the remarks of the Minerals Separation representative concerning it were discussed by E. Shores, of Stimpson Equipment Company, and Alfred Frank, general manager of the Ohio Copper Company at the time of the tests.

"Knowing the character of the ore at the Ohio Copper," said Mr. Shores, "we explained to Mr. Frank that the standard Janney machine was mostly constructed out of iron and would corrode, or eat up very fast on the mill solutions. Mr. Frank said he understood that, but inasmuch as he only wished to make a short test that he would not care to take the time to have the machine made acid proof." Mr. Frank confirmed this, saying, "The machine was entirely constructed of cast iron. The reason

I did not see fit to order a more substantial machine was because of the fact that the tenure of the lease was very uncertain."

Mr. Shores quoted from a report of Mr. Frank's assistant, just seventeen days after the Janney machine was started: "The Janney machine as originally constructed was made to a great extent of iron parts. The circuit water, as you are aware, carries copper solution in considerable quantity, and as was anticipated, the corrosion of these parts is progressing very rapidly."

"In the early part of 1917 it (the Janney machine) was in practically continuous operation," said Mr. Frank. "It had been in use for a very considerable period before the Minerals Separation machine was even installed—at least sixty days."

The report circulated by Minerals Separation, showing the "superiority" of a new Minerals Separation machine over a corroded Janney, covers the period from June 18 to July 3—from two and a half to three months after the Janney machine had been installed. As to this "test period" of two weeks, Mr. Frank said, "I did not consider there was any definite period during which there was a test. I considered that there were competitive tests being made continuously. My conclusion as I recall it at this time was that the Janney machine did slightly better metallurgical work."

Mr. Shores' conclusion was: "This report that was circulated was unfair—we would deem it as unfair competition."

"The Fear of a Row."

Dr. Gregory's statement in the New York hearings, that a licensee "is insured against a lawsuit," became still more significant in the light of later testimony, brought out on cross-examination by Minerals Separation's counsel.

"Is it not a fact," inquired Minerals Separation's counsel of a licensee, "that in concluding to settle for past infringements and take out a license, the unsatisfactory operations in connection with the use of more than one per cent (of oil) figured?"

"Not a bit," replied the licensee. "The fear of getting into a row with Minerals Separation was the only consideration in mind. I acted under the advice of our attorney that the matter of having to fight litigation might be very important, and that the Minerals was altogether too big a factor for us to engage in such a fight with. It seemed as though they were getting the best of it, but we felt perfectly sure they were not entitled to it. It was not because we felt that Minerals Separation was in the right—purely and simply because the cost of getting into a fight was wholly beyond

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what we could consider. It was purely a matter of expediency."

The premium which this licensee had to pay to obtain a policy of lawsuit insurance from Minerals Separation amounted to \$35,000. He testified that he had never received any assistance from Minerals Separation in any way, and that they "had nothing to offer on the specific problems that were bothering us that seemed to be any help."

"We cannot sue everybody all at once, you know," said Mr. Nutter. "Our attorneys have certain limitations as to the number of suits they can conduct at any one time."

"We have there (New York) three or four of Mr. Nutter's staff engaged in litigation,"

MR. LORING'S JOB.

Among the many statements of satisfaction heard upon the election of W. J. Loring as president of the American Mining Congress, none was more expressive than the following, made to the superintendent of Mr. Loring's Carson Hill Gold Mines by an Italian employee:

"Jesu Christo, Meester Loorring gotta beegas' job in United States now! Pres-ee-dent! Jesu, I be glad."

Readers will understand that the use of the Savior's name in exclamatory utterances is quite permissible among the Latin races.

The superintendent, in reporting the Italian's jubilant comment, said he regretted it was impossible to portray the eloquent gesticulation with which it was accompanied.

said the Secretary of Minerals Separation North American Corporation, "that are retained at the New York office for the purpose of litigation, and in the intervals when litigation is slack—a time which occurs very rarely—we send them out into the field."

A mine operator who did not purchase "lawsuit insurance" from Minerals Separation testified that his mill was now closed down because of the price of copper and the fear of litigation by Minerals Separation. Should that fear be removed, however, the price of copper "very probably" would not keep him from reopening.

No date has as yet been set for further hearings in this case, but it is believed that they will be resumed in Washington.

DEATH OF H. M. WILSON.

H. M. Willson, who was associated with Dr. Joseph A. Holmes in the organization of the Bureau of Mines, died at Hartford, Conn., November 25. In the early days of the bureau, Mr. Wilson was engineer in charge of the mining station at Pittsburgh. He later became manager of the mining branch of the Associated Insurance Companies at Pittsburgh and for the last several years had been general manager of the company at Hartford. He attended the recent convention of the American Mining Congress.

THE INDUSTRIAL GOLD CONSUMERS' SUBSIDY

BY H. N. LAWRIE

(An address before the Denver convention.)

There are 480 grains in an ounce of gold. By United States statute there are 23.22 grains of fine gold in the standard dollar. Dividing the number of grains in an ounce by the number of grains in a dollar, the quotient obtained is 20.6718 dollars, the price of the fine gold ounce. That the government has arbitrarily fixed the price of gold has been questioned, but this fact alone determines the solution of the gold problem. Because the price of gold is fixed, the premium specified in the McFadden Bill cannot be construed as a subsidy to the gold producer, as it constitutes a compensation of the loss in the purchase power of the gold ounce, and for the same reason the consumer of industrial gold who buys the metal at the pre-war price is receiving a subsidy. Fixed in price, gold cannot respond to the law of supply and demand, and market conditions differ altogether from all other products.

Purchase Power of Gold Ounce.

As compared to 1914, the average purchase power of the dollar in terms of the wholesale prices of all commodities during the last five years (1915-1919) was 67 cents. The gold ounce, the only source of income to the gold producer, with a purchase power of \$20.67 in 1914, had an average purchase power during the last five years (1915-1919) of \$20.67 multiplied by 0.67, or \$13.85. Had the \$10 premium been in effect during this five-year period

the purchase power of the gold ounce would have been \$30.67 multiplied by 0.67 equals \$20.54, or 13 cents below the fixed price of \$20.67. Opinions have already been expressed by our leading financiers and economists that it will be a matter of ten years before the 1914 dollar will have regained even a large part of its purchase power, and many question that it will ever return to its purchase power of 1914. It would be most liberal to assume, therefore, that the 1914 dollar will regain its purchase power during the five-year period (1920-1924), in which

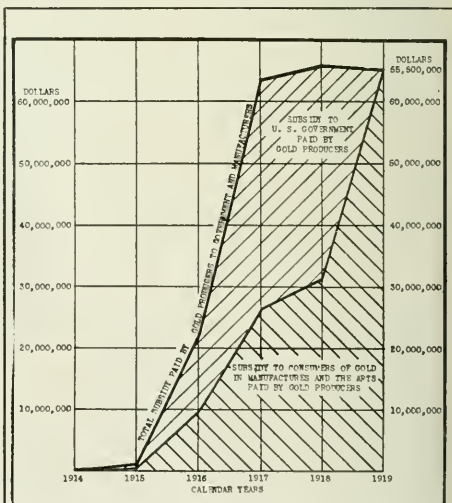


Chart 1.—Subsidy Paid by Gold Producers to U. S. Government and Consumers of Gold in Manufactures and the Arts, Based on Production and Decline in Purchase Power of Dollar, 1914-1919.

event the average purchase power of the dollar during this five-year period would not be less than 67 cents, the average during the period of uprising prices (1915-1919). The purchase power of the gold ounce, including the \$10 premium, based on 67 cents as the purchasing power of the dollar, would be \$20.54 during the period (1920-1924), the same as if the premium had been in effect during the period (1915-1919). It is fundamental to the maintenance of a normal gold production during this abnormal period that the purchase power of the ounce be restored to normal as compared to 1914. The McFadden Bill providing a premium of \$10 an ounce for the newly produced gold will accomplish this result.

Subsidy Paid by Gold Producers

Had the price of gold ascended to the average wholesale price of all other commodities during the five-year period (1915-1919) the gold producers would have received for the amount of gold they actually produced \$218,280,000 more than the amount which they did receive of \$404,509,000. Of the \$218,280,000, the amount which would have been paid by the industrial consumers of gold would have been \$133,686,000 for the gold actually consumed, while the government would have paid \$84,594,000 upon the monetary gold surplus. Inasmuch as the price of gold has been fixed, these respective amounts may be construed as subsidies paid by the gold producers to the industrial consumers of gold and also to the government, which received the monetary surplus. Since there was no monetary surplus in 1919 the industrial consumers of gold benefited by the entire subsidy of \$65,509,000. It is reasonable to assume that if the premium had

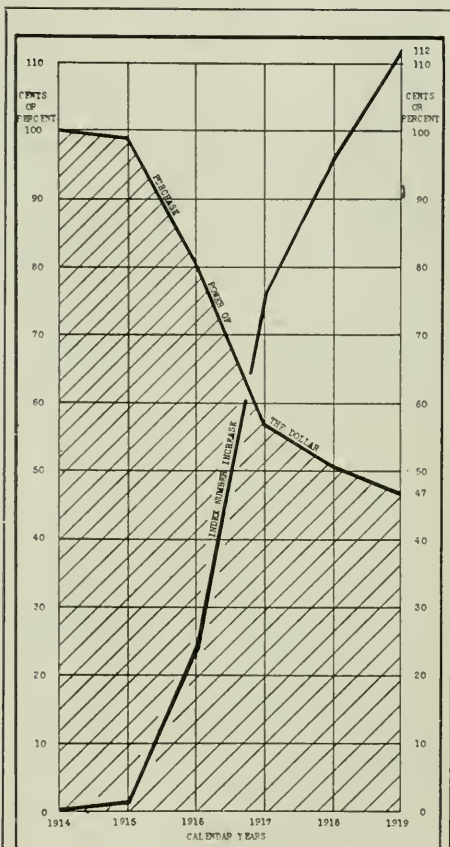


Chart 2.—Decline in Purchase Power of Dollar Based Upon the Wholesale Price Index Numbers, 1914-1919.

been in effect during the entire period (1915-1919), which would have insured a normal (1914) purchase power of the ounce, the gold production of 1915, \$100,000,000, would have been maintained throughout the period, in which event the gold producers would have received \$500,000,000, the monetary price.

plus \$250,000,000, the premium, a total of \$750,000,000, or \$345,491,000 more than actually received.

Excise Compensates for Industrial Subsidy.

In imposing the excise of 50 cents a penny-weight, which is equivalent to \$10 an ounce, for the gold contained in manufactured articles, the McFadden Bill enables the industrial consumer to pay more nearly the anticipated cost of production during the forthcoming five-year period, an amount which when paid to the producer of new gold will re-establish the purchase power of the ounce to its status of 1914, and will therefore insure the normal production of gold in the United States.

Monetary Necessity for Immediate Remedy.

The gold production of the United States this year will be between \$40,000,000 and \$50,000,000, less than 50 per cent of the 1915 production; and unless some remedy as is provided for in the McFadden Bill is expedited, the production for the ensuing years will rapidly approach the vanishing point, as the gold mines of the country continue to shut down. By reason of the monetary necessity for maintaining the normal gold production of the United States, especially during this period of credit and currency contraction, of protecting the monetary gold reserve from further industrial depletion and of safeguarding the gold standard itself, Congress should provide a remedy without delay in the interest of national security.

DATA FOR CHARTS (1) AND (2).
(000 omitted)

	1915	1916	1917	1918	1919	Total 1915-19
1. Average percentage increase in wholesale commodity prices over 1914.....	1%	24%	76%	96%	112%	Av. 62%
2. Purchase power of dollar as compared to 1914.....	99c	81c	57c	51c	47c	Av. 67c
3. Purchase power of the fine gold ounce (in 1914=\$20.67).....	\$20.46	\$16.74	\$11.78	\$10.54	\$9.72	Av. \$13.85
4. U. S. gold production.....	\$101,035	\$92,590	\$83,750	\$68,646	\$58,488	\$404,509
5. Net gold consumption in manufactures and arts.....	\$29,600	\$41,120	\$34,800	\$32,890	\$58,488 5a	\$196,898
6. Percentage net gold consumption in manufactures and arts of total production.....	29%	44%	42%	48%	100%	.....
7. Subsidy paid by gold producers to consumers of gold in manufactures and arts	\$296	\$9,868	\$26,448	\$31,574	\$65,500	\$133,686
8. Monetary surplus of gold over that consumed in manufactures and arts.....	\$71,435	\$51,470	\$48,950	\$35,756	.....	\$207,611
9. Subsidy paid by gold producers to government on monetary surplus.....	\$714	\$12,352	\$37,202	\$34,326	.....	\$84,591
10. Total subsidy paid by gold producers on account of decrease in purchase power of dollar	\$1,010	\$22,220	\$63,650	\$65,900	\$65,500	\$218,280

1. U. S. Bureau of Labor statistics (index numbers). 2. Computed from (1). 3. Computed from (2). 4. U. S. G. S. and U. S. Mint. 5. U. S. Mint. 5a. Sales reported by U. S. Mint Service Stations are in excess of production. 6. (5) divided by (4). 7. (5) multiplied by (1). 8. (4) minus (5). 9. (8) multiplied by (1). 10. (4) multiplied by (1).

IMPORTANT GOLD FACTS

Total U. S. gold stock May 1, 1919.....	\$3,092,430,916
Total U. S. gold stock May 1, 1920.....	2,616,615,750
Decline in U. S. gold stock May 1, 1919, to May 1, 1920.....	14.4%—145,815,166
Exports of gold from the U. S., calendar year 1919.....	368,144,500
U. S. gold imports, calendar year 1919.....	76,534,000
Loss of gold by excess exportation, calendar year 1919.....	291,610,500
Exports of gold from the United States, January 1 to September 30, 1920.....	259,331,925
U. S. gold imports, January 1 to September 30, 1920.....	198,888,957
Loss of gold by excess exportation, January 1 to September 30, 1920.....	60,442,968
Total Federal Reserve net deposits October 15, 1920.....	1,694,130,000
Federal Reserve notes in circulation October 15, 1920.....	3,353,271,000
Total reserves Federal Reserve Banks October 15, 1920.....	2,154,911,000
Ratio of reserves to F. R. net deposit and note liabilities October 15, 1920, 42.7%, 4.3% above the legal requirements.	
Gold cover of the Federal Reserve dollar note in circulation October 15, 1920.....	46.6 cents
World's gold production, 1915.....	\$169,000,000; 1920 (estimated), \$325,000,000
World's gold production decline, 1915-1920.....	\$144,000,000, or 30.7%
U. S. gold production, 1915.....	\$101,000,000; 1920 (estimated), \$50,000,000
U. S. gold production decline, 1915-1920.....	\$51,000,000, or 50.5%
Gold sold by U. S. Mint for consumption in manufactures and the arts, 1919.....	\$76,837,600
Usual estimated gold coin destruction.....	3,500,000
Total gold sold and coin destroyed for use in manufactures and the arts, 1919.....	80,337,600
1919 production fails to equal gold consumed in manufactures and the arts by.....	21,848,000
Old Gold refined by New York Assay Office and returned to manufacturers, 1919.....	20,359,613
Gold sold by U. S. Assay Office, New York, for consumption in the manufactures and the arts, January 1 to March 31, 1920.....	20,037,317
1918.....	1919
U. S. siliceous ore gold output.....	\$42,284,130—63.7% \$38,209,508—64.8% Decline 9.6%
Placer.....	15,673,424—23.6% 14,918,468—25.3% " 4.7%
Base ore by-product.....	8,454,282—12.7% 5,847,359—9.9% " 30.8%
U. S. gold production, 1920 (estimated).....	\$10,000,000 to 50,000,000
Estimated failure of gold production to meet 1920 requirements of manufactures and the arts.....	\$30,000,000 to 40,000,000
Estimated income from excise of 50c. per pennyweight based on 1919 domestic consumption of gold in manufactures and the arts (excludes imported jewelry, an additional source of revenue).....	43,000,000
Estimated premium cost based on 1919 gold production.....	29,000,000
Balance in favor of U. S. Treasury.....	14,000,000

GOLD AND SILVER IMPORTS AND EXPORTS REPORTED

The Department of Commerce has issued the following figures on imports and exports of gold and silver: Gold imports, October, 1920, \$117,000,000; September, 1920, \$39,000,000; October, 1919, \$5,000,000. In October, 1920, gold imports were the largest of any month for the last three years. For the ten months ending with October, 1920, gold imports amounted to \$316,000,000, as against

\$61,000,000 in the same period of 1919. For October, 1920, gold exports amounted to \$26,000,000, as compared with \$44,000,000 in October, 1919. For the ten months of 1920 gold exports amounted to \$285,000,000, as compared with \$270,000,000 for the same period in 1919. Silver, ten months of 1920, imports, \$78,000,000, as compared with \$73,000,000 in same period in 1919. Exports, ten months, 1920, amounted to \$104,000,000, as compared with \$189,000,000 in the same period of 1919.

BUREAU OF MINES BUDGET CALLS FOR 166 PERCENT INCREASE

The bureau of Mines has asked for an appropriation of \$3,469,638 for the fiscal year beginning July 1, 1921, or for \$2,167,996 more than the budget for the current fiscal year. Increased funds are sought for extension of work being done and in contemplation and to cover a general increase in salaries ranging from that of the director down to those of the lowest paid clerks.

Secretary Payne has included in his budget calculations a new salary scale for all the bureaus of the Interior Department, which include both the Bureau of Mines and the Geological Survey. If Congress makes the necessary appropriations, the salary of the director of each Interior Department bureau will be raised to \$7,500, that of the assistant director to \$5,000, that of the chief clerk to \$3,500, those of assistant attorneys to \$2,500 to \$4,000, those of division chiefs to \$3,000 and those of assistant divisional chiefs to \$2,500.

Clerks now receiving \$2,000 will get \$2,400; those getting \$1,740 and \$1,800 will hereafter draw \$2,250; those receiving \$1,600 and \$1,620 will be raised to \$2,000; those receiving \$1,320, \$1,400 and \$1,500 will hereafter draw \$1,800; salaries of \$1,140 and \$1,200 will be increased to \$1,600, and those who receive \$1,000 even will find their annual income swelled by \$400—enough to place them in the class of income tax payers, provided they are unmarried. And so the range of increase continues until it reaches the messenger boy who now receives \$420 a year. He will find his salary doubled if Congress makes the appropriation which the Secretary of the Interior has requested.

Increased appropriations are sought for every department of the Bureau of Mines except two—books and publications and purchase of land for rescue cars. The same amount which is being expended this year for books and publications, \$1,500, is sought for next year. Nothing is asked for the purchase of land for rescue cars, for which \$1,000 is being expended this year. In addition, appropriations are now sought for seven new purposes.

The estimated expenditures for 1922 are as follows:

General expenses, \$87,920; mine accidents, \$551,353; testing fuel, \$175,531; mineral mining, \$352,271; petroleum and natural gas, \$453,850; expenses mining experiment stations, \$270,000; care of new building at Pittsburgh, \$120,558; operating mine rescue cars, \$198,650; purchase of mine rescue car, \$45,000; inspecting mines in Alaska, \$9,625; books and publications, \$1,500; building for Fairbanks, \$75,000; experimental mine land, \$18,000; land for Pittsburgh station, \$28,000; fuel inspection, \$725,000; construction of garage, \$150,000; fuel purchases, \$75,000; leasing bill, \$132,390.

Where Money Is to Be Spent.

These estimates involve the following increases over the budget for the current year:

General expenses, \$11,020; mine accidents, \$142,288; testing fuel, \$53,021; mineral mining, \$227,271; petroleum and natural gas, \$318,840; expenses mining experiment stations, \$70,000; care new building at Pittsburgh, \$70,558; operating mine rescue cars, \$43,983; purchase of mine rescue car, \$45,000; inspecting mines in Alaska, \$2,625; building for Fairbanks, \$75,000; experimental mine land, \$18,000; land for Pittsburgh station, \$28,000; fuel inspection, \$725,000; construction of garage, \$150,000; fuel purchases, \$75,000; leasing bill, \$132,390.

Accompanying the request for an increased

appropriation, the director of the Bureau of Mines sent to the Secretary of the Interior, and the Secretary of the Interior will transmit to Congress, illuminating data giving full facts on which the request is based. Some of the reasons assigned are so simple and have been applicable to the work for so long that one is constrained to wonder how the Bureau of Mines has been able to get along up to the present time on the income it has been receiving. For instance, a fifteen per cent increase over the present allotment for traveling expenses is requested owing to increased railroad and Pullman rates. In the matter of salaries, no proposed increase will raise the salaries of the recipient to a point above that recommended in the recent report of the reclassification commission.

Since the 1920 estimates were made, an increase of at least twenty per cent in the cost of materials used in investigating mine accidents has taken place. The bureau has been working under the handicap of being unable to purchase all needed field and laboratory supplies and equipment. It is also necessary to purchase and equip one mine rescue truck for the station at McAlester, Oklahoma.

New Work Contemplated.

The new work contemplated for the year includes a study of the physiological effect of mine gases and the use of electricity in mines, also for conducting experimental tests for explosives suitable for use in mine operations other than in coal mines. The demand by the metal mining industry for recommendation from the bureau of explosives containing no poisonous gases is insistent. Several fatalities have recently occurred from poisonous gases from industrial explosives now in common use.

Additional funds are sought for fuel testing work to meet increases in the cost of materials, for the employment of an assistant fuel engineer at the Pittsburgh station, for expenses of studying and developing underfeed stokers and for making a study of the important mining engineering files of the United States Fuel Administration of both the anthracite and the bituminous coal commissions. It is the intention of the Bureau of Mines to give to the public the economic information contained in these files and to use the same as a basis for a continuing study of the economic conditions under which coal is mined and prepared for use.

In the field of mineral mining investigations, the bureau has found it necessary to ask for funds for employing a copyist for the chief technologist, a junior chemist for alloy work at the Ithaca, N. Y., station, an assistant chemist at the Salt Lake station and Moscow, Idaho sub-station, and a gas-mask mechanic at the Pittsburgh station. The sum of \$20,000 is sought for conducting investigations of the mining of minerals other than coal and particularly for conducting an investigation of the economic phases of the metal mining industry, all of which will be new work. One reason assigned in asking for this particular appropriation is stated by the bureau as follows:

"An admitted serious deficiency in the work of the Bureau is the lack of a division to handle the economic mining work in the various branches of the mineral mining industry throughout the country. During the war, funds were available, and the Bureau organized a division of this character. Its loss has been felt, and freely commented on by the industry, and by the technical papers representing the industry."

The sum of \$125,000 is sought for non-metallic and chemical industries investigations. That it is necessary for the Bureau of Mines to make this expenditure in order to fulfill completely its mission is attested by the following statement found in the brief supporting the budget:

"The outstanding feature in industry in the last ten years has been the increase in value and diversity of the products of the chemical and metallurgical industries. It is part of the Organic Act of the Bureau to increase efficiency of utilization and avoidance of waste through development of better technology in processes and manufacture.

"The development which the German chemical industry had received up to 1914 is an example of what government aid to research in the chemical industry can accomplish. While it is true that many of the large chemical industries maintain their own research and investigative staffs, yet, generally, the information acquired is not made public. Therefore, for the proper development and advancement of the chemical and metallurgical industries, it is necessary that a public agency should aid and foster research in, and disseminate the information concerning these industries."

Petroleum and Gas.

A comprehensive program for petroleum and natural gas investigational work has been mapped out. The oil situation, par-

ticularly the gasoline situation, with constantly increasing demand, has impressed upon the bureau the urgent necessity for adopting every means for increasing and conserving the national petroleum supply. Refinery losses in 1919 amounted to 16,000,000 barrels of oil. The bureau is now asking for \$34,000 to prevent the recurrence of such a loss by increasing efficiency methods of oil refining. For conducting investigations of the cracking of heavy oils and the extraction of oils from asphaltic sands, \$33,000 is sought. In this connection the bureau intends to find, if possible, a method of extracting a larger percentage of gasoline from heavy oils. For investigating methods for increasing the recovery of oil from the sands of Pennsylvania, Ohio, West Virginia, New York, Kentucky, Indiana, and Illinois, \$30,000 is asked. Most of the oil work done by the bureau has been done west of the Mississippi River. The bureau now is of a mind to initiate a similar program east of this stream.

Oil Shale.

The time has come when investigation of the possibilities of obtaining oil from shale must be made, and made intensively. The bureau asks for \$170,000 for this purpose. This request is bulwarked by the following paragraph:

"With the passing of the oil industry through a critical period of production, attention and publicity have been given to the enormous reserves of oil in the oil shales of Colorado, Utah, Wyoming, Montana, Nevada, California, Kentucky and other states. Notwithstanding the considerable amount of moneys which have been expended up to the present time, there is not an oil shale plant producing oil in commercial quantities in the United States. The industry is faced with a great lack of essential and fundamental information, which can be expected and given best from a federal bureau. The several years of investigative and development work which must take place before this industry is on a commercial producing basis, and the absolute need of utilizing this great storehouse of oil and gasoline, make it essential that a vigorous campaign of investigative work be started by the Bureau of Mines."

Experiment Stations.

The appropriation for expenses of the mining experiment stations includes \$16,000 for increase in salaries and traveling expenses, \$54,000 for new work, \$70,558 for care and maintenance of buildings and grounds at the Pittsburgh station, and \$60,000 for their improvement.

Among items not cared for in any regular bureau appropriation, but which nevertheless are indispensable to the continuance of the work are the following: \$75,000 for purchasing a site and erecting a mining experiment station building in Alaska; \$18,000 for experimental coal mine and explosives testing station at Bruceton, Pa.; \$28,000 for purchase of property contiguous to the Pittsburgh station; \$150,000 for construction of needed housing for mechanical equipment in the District of Columbia and \$725,000 for fuel inspection. In support and explanation of its work and contemplated work under the latter head, the bureau's budget brief says:

"No estimated work of the Bureau is so essential as the establishment of a uniform system of inspecting fuel throughout the United States, and following the policy adopted by the government in public inspection and standardization of grains and cotton, it will benefit and promote the export and sale of our coal abroad and do away with the present inequalities and uncertainties existing in the minds of the public as to various grades and qualities of coal in the United States. It will allow producers to market their coal without prejudice."

BAUXITE AND ALUMINUM

A total of 376,566 tons of bauxite valued at \$2,201,747 was marketed in the United States in 1919, according to the report of James M. Hill of the U. S. Geological Survey. This was a decrease over 1918 of 38 per cent in quantity and 36 per cent in value. The production of Georgia, Alabama and Tennessee increased about one per cent during the year, but that of Arkansas decreased about 41 per cent. Domestic consumption was about 38 per cent less than 1918. There were considerable importations from South America. Most of the exportations went to Canadian producers of aluminum and abrasives. Of the domestic production marketed, producers of aluminum took about 272,270 tons, the makers of chemicals 67,842 tons, the manufacturers of abrasives 35,395 tons, and the makers of refractories 1,059 tons.

The aluminum industry consumed 35 per cent less in 1919 than in 1918, and the abrasive industry nearly 70 per cent less. Decreases are attributed to over-stocks of aluminum and of artificial abrasives accumulated during the war.

Manufacture of chemicals called for the use of 3,946 tons more than in 1918, but makers of refractories used nearly 9,000 tons less.

"GIVE AMERICAN PRODUCERS FIRST CALL ON THE COUNTRY'S MARKETS"

Giving American producers the first call on the American market at all times was advocated by J. F. Callbreath, secretary of the American Mining Congress, at a meeting of the members' council of the Denver Civic and Commercial Association, upon his arrival in the western metropolis shortly before the convention of the American Mining Congress. Mr. Callbreath, who was formerly president of the Denver Civic and Commercial Association, took the position that such protection would not only place the American mining industry upon the basis of stability and permanency, but would also make the United States independent of every other nation.

"There is enough mineral in the United States, with perhaps the exception of platinum and tin, to last the country for the next million years," Mr. Callbreath said.

"Mining," emphasized the speaker, "should be fought for." The industry, it was shown, is in direct competition with cheap production abroad. Zinc in Australia, tungsten in Mexico and China, magnesite, prior to the war, Mr. Callbreath declared, was produced from Austrian mines owned by Americans while Brazilian manganese could be mined and delivered in the United States at lower cost than the ore could be transported from Colorado mines to the same eastern market. Enormous deposits of manganese, announced Mr. Callbreath, had been discovered and developed in Arkansas, Colo-

rado, Minnesota, Montana and Washington, when needed during the war, despite the fact that experts had practically ignored its presence in commercial quantity anywhere in the United States.

"But we cannot now compete with Australian zinc, Mexican lead, Chinese tungsten, Brazilian manganese and Spanish pyrites," said Mr. Callbreath.

"With proper protection of the mining industry, the population of Denver can again be doubled without taking into consideration the remarkable agricultural development that is going on.

"There are mining bodies in Colorado and throughout the country which should be developed but which only can be done by giving our producers the first right to the American market.

"There should be industrial protection that will make the mining industry of the United States independent of every other nation. This country controls an ample supply of every mineral except tin and platinum. Three years ago the United States Geological Survey reported only enough manganese deposits in this country to supply the demand for three to five years. Since then there has been developed, within 200 miles of Washington, D. C., manganese deposits sufficient to supply the country for 1,000 years, and other large bodies in other parts of the country."

MANY CHANGES IN PERSONAL OF BUREAU OF MINES

J. L. Lewis, petroleum technologist of the Bureau of Mines, left the government service November 15 to engage in private work in the reclamation of oil wells. He was given a farewell dinner at the Cosmos Club, at which Director F. G. Cottrell, all the divisional and assistant divisional chiefs and other personal friends and associates were in attendance.

A. W. Ambrose, superintendent of the experiment station at Bartlesville, Oklahoma,

was appointed to succeed Mr. Lewis as chief of the petroleum division.

Earl W. Waggy, petroleum engineer of the bureau, stationed at Washington, succeeded Mr. Ambrose as superintendent of the Bartlesville station. Mr. Waggy is a graduate of the College of Mines of the University of California. Immediately following his graduation he accepted a position with the Southern Pacific Company and worked in the oil fields of California along practical

lines. He first entered the service of the Bureau of Mines when the bureau was co-operating with the Land Office in work on California government lease lands. He served in an advisory capacity with the Fuel Administration in handling technical problems and inspecting power plants looking toward the conservation of fuel and oil. For the last year and a half he has served as assistant to the chief of the petroleum division at Washington.

J. J. Rutledge, district engineer of the Bureau of Mines, located at McAlester, Oklahoma, has been appointed acting superintendent of the Mississippi Valley experiment station, newly created, with headquarters at St. Louis. Coincidentally with the announcement of his selection by Director F. G. Cottrell, Supervisor Dorsey A. Lyon of the Bureau of Mines experiment stations announced that the program of work for the Mississippi Valley station would include underground mechanical loading and haulage of dirt, drill steel problem in connection with the North Central station, located at Minneapolis, Minn., study of the ore-dressing problems met with in the mining districts of Wisconsin, Illinois, southeast Missouri and Joplin, Mo., and the metallurgy of lead and zinc ores. It is understood that no extended investigation will be applied to the problems which present themselves in connection with the present retorting process for the treatment of zinc ores. The station will direct its efforts as far as may be possible to the study of innovations in the metallurgy of zinc, giving especial attention to the electrothermic phase of the situation.

John Gross, recently transferred from the Alaska station of the bureau to Rolla, Mo., is to be placed in charge of the ore-dressing and milling work of the station, and as far as possible will work in co-operation with the Missouri state mining experiment station in connection with problems pertaining to the milling of lead-zinc ores which occur in Missouri.

Prof. Charles H. Fulton, director of the Missouri School of Mines and Metallurgy, has been appointed consulting metallurgist, and has been asked to direct the program of work on the electrothermic metallurgy of zinc. Prof. Fulton is also to be asked to prepare a bulletin on the subject.

Carroll R. Forbes has been appointed consulting mining engineer of the bureau in order to direct that part of the drill steel investigations which has to do with the actual use of drill bits, their proper size and shape, etc. This work is to be carried on in connection with the North Central station.

H. S. Mulliken of Lexington, Mass., has been appointed metallurgical engineer of the Bureau of Mines and will serve as assistant

to Director F. G. Cottrell in special professional work. Mr. Mulliken is a graduate of the Worcester Polytechnic Institute. He has served as superintendent of the lead smelter at Pilot Bay, British Columbia; superintendent of the American Smelting and Refining Company smelters at Aguas Calientes and Monterey, Mexico; general superintendent and plant manager of the Penoles Companies at Mapimi, Mexico; for six years was in charge of the metallurgical operations of the American Metal Company's interests in Mexico, and later was consulting engineer in metallurgy for the same company with offices at 61 Broadway, New York.

ANTHRACITE FAIR PRICE COMMITTEE TO ELIMINATE NEEDLESS REALES

A fair practice committee of anthracite operators was selected and began holding meetings the middle of November. It adopted a set of rules to apply to the sale of anthracite and entered actively into co-operation with the Department of Justice in efforts to stabilize the coal situation. The first meeting, held on November 17, was in Philadelphia with E. Lowry Humes, special assistant to the Attorney General.

Members of the Fair Practice Committee, as announced by S. D. Warriner, chairman of the general committee, are: E. E. Loomis, president Lehigh Valley Coal Company, New York; J. B. Kerr, president Scranton Coal Company, New York; P. C. Madeira, president Madeira, Hill & Co., Philadelphia; John Markle, president G. B. Markle Company, Jéddo; James S. McAnulty, Eastport Coal Company, Scranton; A. C. Dodson, president Weston Dodson & Co., Bethlehem, and A. S. Learoyd, assistant to the president, Lehigh Coal and Navigation Company, Philadelphia.

CALIFORNIA METAL & MINERAL PRODUCERS' ASSOCIATION ELECTION

At the annual meeting of the California Metal and Mineral Producers' Association, the following officers and directors were elected: President, E. C. Hutchinson; first vice president, W. J. Loring; second vice president, P. C. Knapp; third vice president, Wm. G. Devereux; secretary-treasurer, Robt. I. Kerr; engineer, C. H. Fry; attorney, Curtis H. Lindley; directors, E. C. Hutchinson, W. J. Loring, P. C. Knapp, Wm. G. Devereux, Albert Burch, O. J. Eggleston, J. A. Fulton, George W. Starr and Edwin Higgins.



COMMITTEES HANDLING MINE MATTERS TO BE REMOVED

Changes of vital importance to the mining industry will be made in the personnel of committees of both the Senate and House after March 4 as a result of the election. Two and three members of some committees to which mining matters are referred went down in defeat and in one instance both the chairman and the man who was in line to succeed him failed of re-election.

In the Senate two new members will be appointed to the Mines and Mining Committee to succeed Senators Charles L. Henderson of Nevada and James D. Phelan of California, who failed of re-election.

Four new members will be appointed to the Public Lands Committee to succeed the following senators who were not re-elected: Marcus A. Smith of Arizona, George A. Chamberlain of Oregon, Phelan of California and Edwin S. Johnson of South Dakota.

Three new members will also be appointed on the Finance Committee to succeed Senator John F. Nugent of Idaho, Senator Charles S. Thomas of Colorado and Senator Thomas P. Gore of Oklahoma. There will also be a new chairman of the Geological Survey Committee to succeed Senator Smith of Arizona and also a member of the Education and Labor Committee and the Judiciary Committee to succeed Senator Smith of Georgia.

In the House of Representatives a new leader of the Democrats on the floor will be selected to succeed Representative Champ Clark, who was de-

feated for re-election. Representative Claude Kitchin of North Carolina is in line for selection as minority leader, but in view of the fact that he suffered a stroke of paralysis last session, the state of his health may forbid his taking active leadership. It is impossible to prophecy with any degree of accuracy just who will succeed the famous Missourian as floor leader.

Representative Samuel Winslow of Massachusetts will probably succeed Representative John J. Esch of Wisconsin as chairman of the Interstate and Foreign Commerce Committee, which considers transportation matters.

Representative John I. Nolan of California is in line to succeed Representative J. M. C. Smith as chairman of the Committee on Labor, but as Mr. Nolan is known to be actively friendly toward organized labor, and opposed on its behalf the Transportation Act, the chairmanship may be given to Representative Ira G. Hursey of Maine.

There will be four new members on the Mines and Mining Committee to take the places of James J. Monahan of Wisconsin, Milton H. Welling of Utah, and Everette B. Howard of Oklahoma, all of whom failed of re-election, and of Chairman M. M. Garland of Pennsylvania, who died after being re-elected.

One new member will be added to the Ways and Means Committee to succeed Henry T. Rainey of Illinois, who also was defeated.

There will be five vacancies on the Labor Committee. Representative Walter A. Watson of Virginia died and the following were not re-elected: J. M. C. Smith of Michigan, chairman; John

MacCrate and James P. Maher of New York, John J. Casey of Pennsylvania, and Saul C. Major of Missouri.

There will be two new members of the Committee on Expenditures in the Interior Department, to succeed Roscoe C. McCulloch of Ohio and Everette B. Howard of Oklahoma.

LEGISLATION PENDING OF INTEREST TO MINING INDUSTRY

Congress will reconvene December 6, and there is no doubt that many important measures in the interest of the mining industry will be considered, among them many bills which were introduced but failed of final action in the two sessions of the Sixty-sixth Congress.

Among the bills already introduced, and in most instances considered, were nine providing for government control of coal; twenty for protective tariff on war minerals; twelve which either amended or abolished various sections of the revenue law; a bill for the protection of our monetary gold reserve; a bill providing for a United States Oil Corporation; at least twenty bills to prohibit immigration and half that number in addition which would suspend immigration until European conditions became settled; a bill for the establishment of a national employment bureau in the Department of Labor; bills against bolshevism; a bill granting additional powers to the Federal Trade Commission and another for its abolishment; a bill which will provide for mining on Indian reservations; suspending annual assessment work on mining claims; bills for a Department of Mines and Geology; a Department of Public Works; for the better development of Alaskan resources; six bills amending the Sherman Anti-Trust Law; a bill for the relief of war minerals producers; a bill for a national "Blue Sky" law; a bill for a national budget system, and one providing for the coordination of government departments. All of these—and many more—will again be brought before Congress.

Many Congressional committees, although Congress is not in session, have been working upon the bills before them. There have been many bills introduced providing for protective tariff, some of which have passed the House. The graphite and the potash tariff bills have received favorable consideration, and the tungsten, magnesite and zinc bills have passed the House. There long has been agitation for a national "Blue Sky" law, and this organization, while favoring legislation to protect investors against misrepresentation, has regarded as dangerous to development the usual plan presented. The Volsted Bill, which was introduced last session, will come up for consideration at an early date.

The question of protection for our monetary gold reserve, which is covered by the McFadden Bill, will be one of the most important questions to be presented for the consideration of Congress. During the adjournment period Congressman McFadden has given the subject further investigation and will urge upon Congress the necessity for expediting the enactment of this bill. The American Mining Congress has been making a continuous study of this problem with a view to assembling facts to be submitted to members of Congress for their assistance in the consideration of this subject.

The bill appropriating \$140,000 for the investigation of our oil shale resources is before the Mines and Mining Committee of the Senate. Mr. Hayden's bill for mining on Indian reserves is in the hands of the House Public Lands Committee.

The following is an abbreviated resume of the bills which were reviewed in THE MINING CONGRESS JOURNAL during the year, and is given to enable quick reference to measures that undoubtedly will be taken up with the reconvening of Congress. The American Mining Congress will endeavor to present such facts as surround the mining of metals and minerals in this country to members of Congress and will assist in every legitimate manner the

securing of the most favorable legislation obtainable through such presentation. The resume follows:

COAL

H. J. Res. 254.—Government Control.—Introduced by Mr. Keller, referred to the Committee on Appropriations, providing as follows:

To relieve the present coal shortage and to provide for the uninterrupted production of coal.

Whereas the very foundation of our economic existence is endangered because of the shortage of coal: Therefore be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, that this Congress recommends that the president of the United States take possession and assume control of the bituminous coal mines now idle, under the powers granted him during the war emergency.

H. R. 13725. Introduced by Mr. Cooper, referred to the Committee on Interstate Commerce. (*Federal Coal Commission.*) Section 3 of the bill provides for the appointment by the President of a Federal Coal Commissioner, who shall be appointed for a term of five years, and receive an annual salary of \$10,000. The bill is identical with S. 4089, introduced by Mr. Frelinghuysen, which provides for the appointment of a Federal Coal Commissioner.

S. 4088. Introduced by Mr. Frelinghuysen, referred to the Committee on Interstate Commerce. (*Federal Control.*) The bill provides that the power and authority to license the incorporation, storage, mining and distribution of coal or coke, to requisition coal or coke, or requisition or operate the plant, business or any appurtenances thereof belonging to any producer or dealer in coal or coke, to fix prices, regulate the production, sale, shipment, distribution, apportionment or storage and all powers and authority incidental thereto, conferred on the President or any other agency of the Government, shall terminate, except that such powers and authority shall continue in full force for 30 days after this Act becomes a law, to the extent that may be necessary to settle and wind up all matters growing out of the exercising of such powers.

H. R. 10737.—Fuel Control.—Introduced by Mr. Sabath, referred to the Committee on the Judiciary, prohibiting the manipulation of the prices of the necessities of life. The bill provides that it shall be unlawful for

any person in combination with other persons to fix a price on the necessities of life usually entering into interstate or foreign commerce, whereby unrestricted competition among producers, middlemen, or routes is interfered with. Section two makes it unlawful for any person in combination with other persons to agree to sell or dispose of any article or commodity, or any food product or article of trade or merchandise usually used as a necessary of life, above a common standard or a fair and reasonable price. Section four provides that the Commissioner of Internal Revenue is authorized to confiscate any food so handled, and to dispose of such confiscated articles at a time which the court shall order.

H. R. 9177.—Fuel Control.—Introduced by Mr. Candler, referred to the Committee on the Judiciary, to prevent profiteering by regulating the distribution and prices of foods, clothing, fuel and other necessities of life. The Act shall be known as the "United States Necessaries Control Act."

S. 4090. Introduced by Mr. Calder, referred to the Committee on Interstate Commerce. (*Presidential Control of Fuel.*) The bill repeals the provisions of Section 5 of the Act to provide for the national security and defense by encouraging the production, conserving the supply and controlling the distribution of food and fuel, in so far as they apply to fuel, including fuel oil and natural gas. Section 2 of the bill amends Section 25 of the Act of August 10, 1917, which provides that when directed by the President, the Federal Trade Commission shall proceed to make full inquiry into the cost of producing coal and coke under reasonably efficient management at the various places of production.

S. 4089. Introduced by Mr. Frelinghuysen, referred to the Committee on Interstate Commerce. (*Federal Coal Commissioner.*) The bill is to be known as the Federal Coal Commissioner Act, and includes both anthracite and bituminous coal. Section 3 provides for the appointment by the President of a Federal Coal Commissioner, who shall hold office for a term of five years and receive an annual salary of \$10,000. The commissioner shall not engage in any other business, vocation or employment. He may be removed by the President for inefficiency, neglect of duty or malfeasance in office. In case of a vacancy in the office of commissioner, the President shall appoint, by and with the advice and consent of the Senate, a person to serve as commissioner for the remainder of the unexpired term. Section 4 provides for

a secretary at a salary of \$5,000 per year; he also may employ and fix the compensation of attorneys, special experts, examiners, clerks, etc. The principal office of the commissioner shall be in the District of Columbia. The commissioner is authorized to investigate the organization, management and practices of dealers and operators' costs and profits in connection with the mining, sale and distribution of coal, the terms contained in leases of coal mines, the prices demanded or received for coal, the distribution, storage and sale of coal, the consumption of coal and the transportation of coal in commerce, including the distribution of coal cars. He is also authorized to investigate the wages, working conditions, terms of employment and the living expenses of miners, etc. He shall make investigations, from time to time, as to the methods and processes for the storage of coal, and conduct such experiments and researches as he may find advisable to determine the most efficient means for such storage.

H. R. 11339.—Food and Fuel Control.—Introduced by Mr. Brand, referred to the Committee on the Judiciary. It shall be deemed criminal to sell or purchase foodstuffs either for human or animal consumption or use and of fuel that are not intended to be actually delivered by the seller or received by the buyer; to send by any person, or association of persons, any message by wire, telephone, mail, or otherwise, quoting prices on or proposing to enter into a contract for the purchase or sale for future delivery of any such foodstuffs or fuel without intending that the same shall be actually delivered or received; for any person to purchase foodstuffs or fuel with intent not to sell the same in the usual course of business, but to store and hold the same with intent to increase the price for the purpose of receiving unreasonable or excessive profits in the sale of same; to publish any false or misleading market quotations.

S. 4087, Seasonal Coal Rates, was reported from the Sub-Committee on Interstate Commerce by Mr. Frelinghuysen. The sub-committee unqualifiedly and unanimously approved the bill as amended, and adopted the principle and most of the phraseology of the original bill, but provided definite differentials. The committee believes that it will bring about the stabilization of the price of coal; the capacity output of all the coal mines in the United States, assuming fairly constant operation, would far exceed the present consumption; it will obviate very largely the pressing necessity for more coal cars; would remedy the present inadequacy of terminal facilities; will promote regular-

ity of employment in the mines, and would thus settle most of the outstanding grievances of the miners, and also increase compensation for the miners. It does not believe that any confusion will result from changing the rate on coal monthly by specified amounts either for carriers or shipments and that the revenues of the carriers would not be affected. That the transportation of more coal in the spring and summer will not not embarrass the railroads in handling other seasonal movements of crops, etc.; and that the acquisition of more coal cars does not afford a practicable and complete remedy for existing difficulties. The committee realizes that the feasibility and effectiveness of the proposed legislation depends very largely upon the practicability of storing coal in large and small quantities. As a result of testimony and from information secured through correspondence, the committee entertains no doubt whatever but what practically every kind of coal mined in the United States can be stored safely, conveniently and cheaply. The committee report is signed by Messrs. Frelinghuysen, Townsend and Myers.

H. R. 11952, Coal Export.—Introduced by Mr. Dyer, referred to the Committee on Interstate and Foreign Commerce. The Bill prohibits the export of coal from the United States, and is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That from and after the passage of this Act it shall be unlawful to export from or ship from or take out of the United States any anthracite or bituminous coal, culm, slag, shale, coke, or any compositions used for fuel of which coal or coal dust is the component material of chief value.

"Sec. 2. That any person, firm, or corporation who shall export, ship, or take out, or deliver or attempt to deliver for export, shipment, or taking out, any article in violation of this Act or of any regulation or order made hereunder, shall be fined not more than \$10,000, or, if a natural person, imprisoned for not more than five years, or both; and any article so delivered or exported, shipped, or taken out, or so attempted to be delivered or exported, shipped, or taken out, shall be seized and forfeited to the United States; and any officer, director, or agent of a corporation who participates in any such violation shall be liable to like fine or imprisonment, or both."

H. R. 12848. Introduced by Mr. Tilson, referred to the Committee on Interstate and Foreign Commerce. (*Federal Control*.) This bill is identical with the bill introduced

in the Senate by Mr. Frelinghuysen—S. 4089.

S. J. Res. 146, *Income Tax*.—Introduced by Mr. Harris and referred to the Committee on Finance, provides that the Secretary of the Treasury be directed to furnish the Senate information concerning the income and profits tax returns for the taxable year of 1918 of all corporations as follows:

"Capital stock; invested capital; net income; tax (1) income, (2) excess profits, (3) total; per centum of total tax to net income; net income, after deducting tax; per centum of net income to invested capital; per centum of net income to invested capital; per centum of net income, after deducting tax, to capital stock; per centum of net income, after deducting tax, to invested capital; capital stock, 1917; net income, 1917; per centum of net income to capital stock, 1917; excess of the per centum of net income to capital stock for 1918 above the percentage for 1917.

H. R. 10376—Abolishment of Federal control; H. Res. 372 and 374, for Government Control; H. R. 13230, by Mr. Robison, Federal Control, and H. R. 7196, by Mr. Hudleston, providing for national security and defense by encouraging the production and distribution of fuel.

REVENUE

H. R. 11985, *Repeal of Excess Profits Tax*.—Introduced by Mr. Bacharach, referred to the Committee on Ways and Means. This bill provides for the amending of the Revenue Act of 1918 by striking out sections 503, 504, 628, 629 and 630, and inserting therein as follows:

"1. A tax equivalent to 1 cent for each \$1 or fraction thereof of the amount paid for any article of merchandise when sold by a dealer for consumption or use, up to but not including \$500; and 5 cents for each \$1 on any article of merchandise when sold for \$500 and above. Where more than one article is sold in one transaction, the tax shall be computed on the total amount paid for all such articles, but this section shall not apply in any case where the total amount paid is less than 50 cents.

"2. A tax equivalent to one-half of 1 cent for each \$1 or fraction thereof on all real estate sales of \$500 and above.

"3. A tax of 1 cent for each \$1 or fraction thereof on sales of all raw materials taken from mines, woodlands, waters, and so forth.

"4. Such tax shall be paid to the vendor by the purchaser at the time of the sale, and shall be collected, returned, and paid to the United States by the vendor in the manner

provided by rules and regulations of the Treasury Department."

H. R. 13771. Introduced by Mr. Evans of Montana, referred to the Committee on Ways and Means. (*Excess Profits Tax*.) The bill provides that Section 211(a) of the Revenue Act be amended so as to increase the surtax upon individual incomes of \$100,000 and upward, as follows:

Fifty-five per centum of the amount by which the net income exceeds \$100,000 and does not exceed \$150,000.

Sixty per centum of the amount by which the net income exceeds \$150,000 and does not exceed \$200,000.

Seventy per centum of the amount by which the net income exceeds \$200,000 and does not exceed \$300,000.

Eighty per centum of the amount by which the net income exceeds \$300,000 and does not exceed \$400,000.

Ninety per centum of the amount by which the net income exceeds \$400,000 and does not exceed \$500,000.

One hundred per centum of the amount by which the net income exceeds \$500,000.

H. R. 13557. Introduced by Mr. Pell, referred to the Committee on Ways and Means. (*Collection of Taxes*.) The bill provides that any individual, trustee, executor, partnership, firm or corporation may pay not more than one-fourth of the tax due from said individual, trustee, executor, partnership, firm or corporation under the Revenue Act passed by the Sixty-fifth Congress, commonly known as the income and excess profits taxes, in the bonds of the United States. Such bonds shall be received by the Collector of Internal Revenue at par, and shall be immediately cancelled.

H. R. 13786. Introduced by Mr. Evans of Montana, referred to the Committee on Ways and Means. (*Computation of Surtax*.) This bill amends Section 211 and is identical with H. R. 13771, introduced also by Mr. Evans, reviewed in these columns, except that it makes the further provisions that the percentages applied only to incomes up to \$250,000 instead of \$500,000.

H. R. 13013. Introduced by Mr. Evans of Nevada. (*Income and Excess Profits Tax*.) The bill provides that hereafter no tax shall be levied, assessed or collected on or from the income or profits of any individual, firm or corporation accruing to or derived from the business of mining the precious metals gold and silver. All provisions of any law in conflict with this Act are hereby repealed.

H. R. 13074. Introduced by Mr. Green of Iowa, referred to the Committee on Ways

and Means. (*Excise Tax.*) The bill provides that every corporation making a distribution during the year 1920 of its capital stock to its stockholders without receiving payment therefor shall pay a tax equivalent to 15 per cent of the face value of the shares so issued.

S. J. Res. 157 (Computation Excess Profits Tax.) Introduced by Mr. King, referred to the Committee on Finance. This Resolution provides for the method by which war-profits and excess profits tax imposed by title three of the Revenue Bill shall be computed for the calendar year of 1919. The Commissioner of Internal Revenue shall ascertain from returns on file in his office if the corporation income tax of each corporation for the calendar years of 1911, 1912 and 1913, the average ratio of annual taxable income to the annual deductions or expenditures which have been deducted from the gross income of each taxable corporation to ascertain its taxable income in each of said years; and having ascertained the average ratio, which shall be called the normal ratio of earnings to expenditures, shall apply the ratio to the expenditures or deductions returned by such taxable corporation for the year 1919, and shall thereby compute the war-profits credit and excess-profits credit, which shall be deducted from the total taxable income or profits of such corporation for the calendar year 1919.

H. R. 12397 (Excise Tax.) Introduced by Mr. Nolan, referred to the Committee on Ways and Means. Section two of the bill provides that all persons, firms, associations and corporations owning land in value in excess of \$10,000, whether in possession or leased to others, shall be subject to an excise tax upon the privilege of the use and enjoyment of such excess at the rate of one per cent. Where land is leased and the value of the lease is in excess of \$10,000, such value may be deducted from consideration in determining the tax to be assessed against the owner, and shall be charged against the lessee. Where the land is held in common or by entireties, or in joint tenancies or subject to estates of dower or life estates or otherwise, so that the ownerships make up the complete legal title and entire ownership has a value in excess of \$10,000, then the several owners shall pay an excise tax based upon their proportionate share in the ownership. The owner of the land is required to file with the Commissioner of Internal Revenue a report showing the tracts in which an interest is held, nature and extent of interest, price paid by taxpayer, or if he received the same by gift or

inheritance, the amount paid by his predecessor in interest for the entire tract; offers received by the taxpayer for any parcel of such land or interest therein within the two previous years; price at which taxpayer within such period has offered land or any part thereof for sale; value of improvements upon the land and value upon which the improvements have been reckoned in any offer of sale; amount spent for making improvements; net price at which the owner is willing to sell the land with or without improvements; assessed value of land on the tax books. This information must be filed with the Commissioner not later than December 31. A fine of 5 per cent and an additional payment of 1 per cent for each month is imposed upon delinquent taxes. The Internal Revenue Department is authorized to make all rules and regulations necessary.

H. R. 12820. Introduced by Mr. Ackerman, referred to the Committee on Ways and Means. (*Tax on Merchandise.*) The bill repeals Title three of the Act of February 24, 1919, known as the Revenue Act, and provides that on and after July 1, 1920, there shall be levied, assessed, collected and paid in lieu of the taxes imposed by the above-mentioned bill, a tax of 25 cents on each \$100 or fractional part thereof, worth of sales, or turnover, of all articles of merchandise sold for cash or any consideration, being of or representing the equal cash value. The tax is to be paid by the vendor at the end of each quarter of the calendar year. Failure to make return of the tax as provided herein shall be deemed a misdemeanor, and the Secretary of the Treasury is authorized to collect a sum equal to 50 per cent additional of said tax, when it shall be determined, unless such failure was caused by sickness, death or other cause beyond the control of the vendor.

H. R. 12976. Introduced by Mr. Thompson, referred to the Committee on Ways and Means. (*Imposing a Tax Upon Advertisements.*) The bill provides that there shall be levied, assessed, collected and paid by the advertiser upon all advertisements in any book, magazine or newspaper having a circulation of 5,000 or more, pamphlet or other publication entering the United States mails, a tax equivalent to 10 per cent of the sum usually charged by the publishers of such book, magazine, newspaper, pamphlet, etc.

H. R. 13696. Introduced by Mr. Hawley, referred to the Committee on Ways and Means. (*Tax Exemption.*) This bill amends sub-section 11 of Section 231 of the War

Revenue Act of 1918, which reads as follows:

"Farmers', fruit growers' or like associations, organized and operated as sales agents for the purpose of marketing the products of members and turning back to them the proceeds of sales, less the necessary selling expenses, on the basis of the quantity of produce furnished by them," to read as follows:

"Organizations of farmers or producers organized and operated as sales agents for the purpose of marketing the products of members, and organizations of farmers or producers, corporate in form or otherwise, with or without capital stock, not organized or operated for profit of the organization as such, processing, handling or marketing co-operatively or collectively the farm or agricultural products of their members or of the organizations." Sub-section 11 exempts all such organizations from taxation under the revenue law.

S. 3422, introduced by Mr. Frelinghuysen, provides for the exemption of fine for failure to pay tax at time fixed by law.

H. J. Res. 315. Introduced by Mr. Little, referred to the Committee on Rules. (*War Profits.*) The bill provides that the Attorney-General is authorized to begin injunction proceedings against the Standard Oil Co. and its various affiliated or allied companies, the United States Steel Corporation and its various allied or associated steel, iron, coal, railroad and banking corporations, and similar corporations and companies, to restrain them from taking any steps, either by stock dividends or other devices, to distribute the surplus war profits accumulated in their treasuries during the past six years.

GOLD

H. R. 13201. Introduced by Mr. McFadden, referred to the Committee on Ways and Means. (*Monetary Gold Reserve.*) The bill provides that after May 1, 1920, in addition to any existing tax now assessed thereon, there shall be levied, assessed, collected and paid a tax of 50 cents per pennyweight of fine gold contained in all gold manufactured, used or sold for other than coinage or monetary purposes, by or for a manufacturer or dealer, or his estate, and upon the gold contained in any manufactured articles sold by any dealer, manufacturer or his estate. The bill also provides for the stamping of every manufactured article or package containing same in which gold is used with a stamp to be provided by the Internal Revenue Department, which department has the power to provide the rules and regulations surrounding the use of the stamp. On account of the

impracticability of suitably stamping finished dental restorative appliances, the Internal Revenue Department shall further prescribe rules and regulations for the collection of the tax upon all gold used for dental purposes. Gold used by the Government for dental, medical and surgical purposes and employed in dental services rendered to war-risk insurance patients by the United States Public Health Service is exempt from taxation. Also all gold used for restorative dental work for children not over 15 years, and in dental infirmaries conducted for the benefit of the poor, and not for private profit, is exempt.

All money so collected shall be paid to the Treasurer of the United States, and shall be designated by him as "the gold premium fund," which fund, together with any other funds in the Treasury not used for specified purposes, shall be paid by the Secretary of the Treasury as a premium after May 1, 1920, and for five years thereafter, to the producers of new gold in the United States or its possessions upon the basis of \$10 per fine ounce.

H. R. 12721 (*Abolishing Sub-Treasuries*). Introduced by Mr. Platt, referred to the Committee on Banking and Currency. The bill abolishes the sub-treasuries and provides for the transfer of the coin, currency, and bullion. It amends section 3595 of the Revised Statutes by authorizing the Secretary of the Treasury to discontinue after July 1, 1921, such subtreasuries as are mentioned in the bill and the exercise of all duties and functions by their assistant treasurers and officers. Section two of the bill provides that the Secretary of the Treasury is authorized to transfer any or all of the duties or functions performed or authorized to be performed by the assistant treasurers to the Treasurer of the United States or the mints or assay offices of the United States, under such rules and regulations as he may prescribe, or to utilize any of the Federal Reserve Banks acting as depositaries or fiscal agents of the United States for the purpose of performing any or all of such functions. The bill appropriates the sum of \$300,000 for the purpose of meeting all necessary expenses. This bill, which has had hearings before the Banking and Currency Committee, was reported to the House on February 25, and takes the place of H. R. 12209, introduced by Mr. Pratt on February 2.

H. R. 13262. Introduced by Mr. McFadden, referred to the Committee on Coinage, Weights and Measures. (*Coin Destruction.*) The bill provides that any person who purposely and knowingly, by any art, way or means shall, except as authorized by law,

totally destroy any gold or silver coins (with the exception of the standard silver dollar of the United States), as such, which have been or which may hereafter be coined at the mints of the United States, or any foreign gold or silver coins which are by law or which hereafter may be made by law current, or are in actual use and circulation as money within the United States, shall, upon conviction, be imprisoned not more than five years and fined not more than \$10,000.

TARIFF

Pyrites.—*H. R. 5215:* Introduced by Mr. Slomp. The bill provides the following tariff duties: Pyrites and all crude iron sulphide minerals, 15 cents per unit of the sulphur content thereof. On sulphur, in whatever form, not otherwise provided in this act, 15 cents per unit of sulphur content of any product so imported.

Manganese.—*H. R. 5216:* Introduced by Mr. Slomp, provides for a tariff duty on crude manganese ores and on manganiferous ores and concentrates thereof, the sum of 35 cents per unit of metallic manganese therein contained. The bill provides for a minimum duty of not less than \$10 per ton upon such ores and concentrates so imported. Upon ferromanganese and spiegeleisen and other alloys and compounds containing manganese and all other manufactured articles and materials containing manganese, not especially provided for herein, 75 cents per unit of the manganese contained therein, with a minimum duty of not less than \$50 per ton upon all such ferromanganese so imported, and a minimum duty of not less than \$30 per ton upon all spiegeleisen so imported.

Magnesite.—*H. R. 5218:* Introduced by Mr. Hadley, provides that a duty of three-fourths of a cent per pound shall be paid upon magnesite, commercial ore, either crushed or ground; one and one-fourth cents per pound on magnesite, calcined, dead burned, and grain; 25 per cent ad valorem on magnesite brick. The bill expressly repeals Section 539 of the Tariff Act of October 3, 1913.

H. R. 11516, Zinc.—Introduced by Mr. Chandler of Oklahoma. To increase the revenue and to levy a duty upon imports from foreign countries of lead and zinc ore and manufactured products containing lead and zinc. The bill provides that silver ore and all other ore containing lead shall pay a duty of 2 cents per pound on the lead contained therein, according to sample and assay at port of entry. A duty of $2\frac{1}{2}$ cents per pound upon lead in pigs and bars, molten and old refuse

lead run into blocks and bars, and old scrap lead fit only to be remanufactured. Lead in sheets, pipes, shot, glaziers' lead, and lead wire, 3 cents per pound. Zinc ore or zinc in blocks, or pigs, or zinc old and worn out, 2 cents per pound. Zinc in sheets, 3 cents per pound. Manufacturers' articles, or wares composed wholly or in part of lead or zinc, whether partly or wholly manufactured, 50 per cent ad valorem. That on all products of lead and zinc, or either of them, or products containing lead and zinc, or either of them, there shall be levied, collected and paid, in addition to the tax now imposed by law, 30 per cent ad valorem; and also,

S. 6328: Introduced by Mr. McPherson, which was amended by

H. R. 6238. Introduced by Mr. Gore, referred to the Committee on Finance. (*Amending the Zinc Bill.*) The amendment provides that no citizen or subject of any country which requires by law, regulation or otherwise any stipulation in any contract, lease, sale or other agreement relating to mines or minerals, including petroleum, in the said country or its possessions or dependencies, which prevents or prohibits American citizens, because of their nationality, from being shareholders, or which limits the number of shares which may be held by American citizens in such undertakings, places restrictions on American citizens holding any position in the company or on the board of directors, or to act on the board or in any managerial capacity whatsoever in connection with any company having any right, title or interest whatsoever in mines or minerals in the United States or its dependencies, so long as the restrictions before mentioned shall remain in force in any law to which the government of the foreign country or any of its officials or representatives is a party.

Quicksilver.—*H. R. 6658:* Introduced by per pound upon all quicksilver imported into the United States or any of its possessions, and a duty of 35 cents per pound of mercury content upon ores or compounds of mercury or manufactured compounds.

Potash.—*S. 1022:* Introduced by Mr. Henderson. This is the same bill Mr. Henderson introduced in the 65th Congress, which failed to pass the Senate, largely because of the filibuster. It is substantially the same as the bill introduced in the House by Chairman Fordney of the Ways and Means Committee.

Potassium.—*H. R. 4870:* Introduced by Mr. Fordney, to provide revenue for the Government and to safeguard, by a license con-

trol of imports of potassium salts and by imposing an import duty thereon, the interests of domestic potash producers.

Graphite—H. R. 5941: Introduced by Mr. Heflin, provides for a tariff of 1 cent per pound of crude graphite ores, which contain 50 per cent or under of graphite carbon; 2 cents per pound of graphite for ores containing 50 per cent graphite carbon. The bill defines crude graphite as ore which has not been subjected to any process of refining or concentration, which changes the graphite content of the ores as mined; a duty of 3 cents per pound upon lump and chip crystalline graphite (plumbago, silver lead) is provided for. Lump and chip are defined as larger crystals of graphite more or less broken up in mining and treatment, of a size which will not pass through a screen with openings one-quarter of an inch square. A duty of 6 cents per pound of graphite is imposed for Flake crystalline graphite (plumbago, silver lead). Upon all other products, manufactured materials and compounds, containing graphite, crystalline or amorphous, not specifically provided for in this Act, a tariff of 5 cents per pound for the graphite contained therein is imposed.

H. R. 4437. (*Tungsten*.) The Senate Finance Committee on March 22 reported out the bill for a protective tariff on tungsten, which bill was reviewed in the June, 1919, issue of THE MINING CONGRESS JOURNAL. The bill has been revised in committee to provide that during the period of three years after the day following the passage of the Act there shall be levied, collected and paid a duty, first, upon tungsten-bearing ores and concentrates of \$9 per unit of tungstic trioxide therein contained. Second, upon metallic tungsten, tungsten powder, scrap steel containing tungsten fit only to be remanufactured, ferrotungsten, ferrotungsten powder, commercial tungstic acid, calcium tungstate, sodium tungstate and all other salts of tungsten and other manufactured material containing tungsten (except high-speed tungsten steel and all alloy steels containing tungsten) and all other compounds containing tungsten not specifically provided for in this section of nine-tenths of one cent per pound of each of said substances or materials for each per cent, or fraction thereof, of tungsten contained therein. The original Section 2 is eliminated, but provides a tariff of 35 per cent ad valorem upon all high-speed tungsten steel and all alloy steels containing tungsten. The last section of the bill remains the same, providing the Act shall be deemed not to repeal any tariff now existing upon any substances or materials mentioned in the Act.

H. R. 11815, *Graphite*.—Introduced by Mr. Fordney, referred to the Committee on Ways and Means, provides for a duty of 1 cent per pound on crude crystalline graphite ores containing 50 per cent or under of graphite carbon; 2 cents per pound for ores containing over 50 per cent of graphitic carbon; 3 cents per pound for lump and chip crystalline graphite; 6 cents per pound on flake crystalline graphite, crude concentrates, and refined flake; upon all other products, manufactured materials, and compounds containing graphite, crystalline or amorphous, not specifically provided for in this Act, in addition to any duties assessed and collected under existing law, a duty of 5 cents per pound for the graphite therein contained.

S. 3611, *Chrome*.—Introduced by Mr. McNary, and referred to the Committee on Finance. The bill provides for 50 cents per unit of Cr_2O_3 on crude chrome ores and chromium ores and concentrates thereof; $11\frac{1}{2}$ cents for each pound of metallic chromium upon ferrochrome and other metallic alloys containing chrome; 65 cents per unit of Cr_2O_3 upon refractory brick and material used for refractory purposes, containing chrome; and a tariff of 90 cents per unit of chrome contained in chemical compounds and articles manufactured therefrom containing chrome or chromite. These tariffs shall be collected in addition to any tariff duties now in force.

H. R. 10305: *Chrome*. Introduced by Mr. Kahn, referred to the Committee on Ways and Means. The bill provides that on the approval of the act there shall be imposed a tariff on chrome ore as follows:

Crude chrome ores and chromium ores and concentrates thereof, 60 cents per unit of Cr_2O_3 contained therein.

Upon ferrochrome and other metallic alloys containing chrome, $11\frac{1}{2}$ cents for each pound of metallic chromium contained therein.

Upon refractory brick and material used for refractory purposes containing chrome, the sum of 65 cents per unit of Cr_2O_3 .

Upon chemical compounds and articles manufactured therefrom, containing chrome or chromite, 90 cents per unit of chromium content; a unit being 1 per cent of Cr_2O_3 contained in a short ton of two thousand pounds.

H. R. 8078, *Cobalt*.—Introduced in the Senate September 29, 1919, known as the "fye Bill," was amended January 20 by inserting "25," so that the article shall read "Cobalt, oxide of, 25 cents per pound."

H. R. 12014, Cobalt.—Introduced by Mr. Rhodes and referred to the committee on Ways and Means. This bill provides that upon the passage of the Act there shall be imposed, levied and collected upon the articles herein named a rate of tariff upon the following: Cobalt, oxide of, 25 cents per pound. Section 2 of the bill provides that on all importations of cobalt, oxide of, there shall be estimated at the port of entry and a bond shall be given in a sum double the amount of such estimated duty for the transportation of said commodity by common carrier bonded for the transportation of appraised or unappraised merchandise to properly equipped sampling establishments, whether designated as bonded warehouses or otherwise. On the arrival of the commodity at such establishments it shall be sampled according to commercial methods under the supervision of government officers, who shall submit the samples obtained to a government assayer, who shall make a proper assay of the sample and report the result to the proper customs officers, and the import duty as provided by the Act shall be liquidated thereon. Section 3 of the bill repeals all existing laws affecting the rate of duty on cobalt.

Molybdenum—*H. R. 7548:* introduced by Mr. Taylor. The bill provides a tariff of 40 cents per pound upon metallic molybdenum contained in crude molybdenum ores and concentrates. Upon all compounds containing molybdenum not specifically provided for in the bill, 70 cents per pound of molybdenum contained is provided. This latter class includes high-speed molybdenum steel and all alloys containing molybdenum.

Barytes—*H. S. 7658:* Introduced by Mr. Rhodes, providing for a tariff on all crude or manufactured barytes of \$10 per ton, on all manufactured barytes or barium sulphate a duty of \$15 per ton, and on barium carbonate a duty of \$20 per ton. A duty of \$20 per ton on barium sulphate and \$20, on each and every other barium compound. The bill shall go into effect 30 days after the date of its passage.

Antimony—*H. R. 7193:* Introduced by Mr. McGlennon: The bill provides that upon the passage of the Act, in addition to duties provided for in the Tariff Act of October 3, 1917, there shall be levied a special duty of 10 cents per pound upon antimony salts and antimony sulphuret. The words "antimony sulphuret" apply to all mixtures or compounds containing precipitated antimony sulphide; precipitated antimony trisulphide, precipitated antimony pentasulphide, precipitated antimony oxysulphide.

H. R. 13173. Introduced by Mr. Watson of Pennsylvania, referred to Committee on Ways and Means. (*Antimony.*) The bill is intended to create a source of revenue and encourage production of antimony salts, titanium salts, hydrosulphites, sulphonylates and artificial bases by amending paragraph 144 of Tariff Act of October 3 1913, as follows:

"Antimony, as regulus or metal, and matter containing antimony, but not containing more than 10 per centum of lead, 10 per centum ad valorem; antimony oxide, 25 per centum ad valorem; antimony salts, titanium salts, hydrosulphites, sulphonylates and artificial bases, 7 cents per pound and 45 per centum ad valorem."

Dye Stuff—*H. R. 6495:* Introduced by Mr. Longworth: Regulating the importation of coal tar products by providing for an import tax upon certain chemicals, and defining those which may be imported without such import tax. This bill is substantially the same as *H. R. 2706* introduced by Mr. Longworth and reviewed in the July issue of the Journal.

H. R. 10874.—Anti Dumping.—Introduced by Mr. Fordney, referred to the Committee on Ways and Means. The bill provides that the Secretary of the Treasury shall designate a sufficient number of special agents or other officers in the Customs Service having expert knowledge of appraisement of imported merchandise and the administration of customs laws; such officers to receive compensation not exceeding \$5,000 per year and expenses. The bill appropriates \$150,000 for the fiscal year ending June 30, 1920, to carry out the provisions of the Act. The Secretary of the Treasury is vested with full power to enforce the Act, with certain duties. If merchandise imported into the United States has been secured from the foreign owner or manufacturer otherwise than by purchase, the sales price, plus the cost, when not included in such price of the package and the packing charges, will be the price at which the person importing the merchandise sells or agrees to sell the goods in the United States, plus the cost, less all expenses, included in said price incurred from the place of shipment or manufacture in the foreign country to the place of delivery in the United States. The foreign home value or the value to countries other than the United States, as the case may be, shall be taken at the date of the sale or purchase of the goods exported to the United States.

BLUE SKY

H. R. 12603 (Fraudulent Stock Promotion). Introduced by Mr. Volstead, referred to the Committee on the Judiciary. The bill is intended to prevent fraud respecting securities offered for sale, and provides that the Attorney General shall, if he believes it to be in the interest of the public, investigate any sale, promotion, negotiation, or distribution of any stocks, bonds, or other securities that involve the use of the mails; he shall require any persons, partnerships, or corporations to file with him a statement in writing under oath as to all the facts concerning such sale, and in addition thereto such further data and information as he may deem relevant and make such special investigation as may be necessary. In case of disobedience to a subpoena of any witness appearing before the Attorney General, he may invoke the aid of the Supreme Court of the District of Columbia or of any district court of the United States. The court may thereupon issue an order requiring the person to obey the subpoena and give evidence in the matter in question. The Attorney General is also empowered upon satisfactory evidence, that in the sale, promotion, etc., persons are employing any scheme to defraud, to serve upon such corporations or persons an order requiring them to desist. If it shall appear to the Attorney General that an irreparable public injury is imminent before such an order is issued and before full investigation can be made, he may, pending such investigation, issue an order, the same to be accompanied with a request for information as to the facts. This temporary order shall remain in force only until the information is furnished. For failure to comply with any of the provisions of this act a fine is provided of not more than \$10,000, or imprisonment of not more than ten years, or both.

S. 3702, Regulating Sale of Stock.—Introduced by Mr. Kenyon, referred to the Committee on Interstate Commerce, regulates the issuance of stock by corporations engaged in interstate commerce. The bill provides that whenever an offering is made to the public of an original issue security by any corporation engaged in interstate commerce it shall file with the United States Postmaster at its legal address and with the Federal Trade Commission at Washington, a statement showing the purposes for which the corporation is organized; its officers and directors with their residences; the last balance sheet of the corporation, showing in detail all payments for tangible and intangible property, good will, promotion fees, and all other agreements for the disbursement of money except that used for the pur-

poses to which the proceeds of the sale of the new security are to be devoted; the terms of the flotation showing the price at which the securities are sold; the estimated expense of the flotation; the name of the underwriters, the terms of the underwriting, and the names of and terms by which sub-underwriters, syndicates, bankers, brokers and others deal in the original sale of such securities.

ANTI-TRUST

S. 3288.—Proposed by Mr. Curtis, which amends the Act to regulate commerce as follows: "That carriers affected by any order of the commission made under authority of this section shall be, and they are hereby, relieved from the operation of the anti-trust laws, as designated in Section 1 of the act approved October 15, 1914, entitled 'An Act to supplement existing laws against unlawful restraints and monopolies, and for other purposes, and of all restraints or prohibitions by law in so far as may be necessary to enable them to effect any division of traffic or earnings between such carriers so approved by order under and pursuant to the foregoing provisions of this section.'"

S. 3720, Combinations.—Introduced by Mr. Smoot, referred to the Committee on Interstate Commerce, amending Section 10 of the law against unlawful restraints and monopolies, approved October 15, 1914, as follows:

"None of the provisions of this section shall be construed to include or apply to any railroad, all of the shares of stock or property of which is owned by a person or corporation whose plant, shops, mills, or factories such railroad is principally engaged in serving, nor to any director, agent, manager, or officer of any such railroad."

H. R. 13138. Introduced by Mr. Platt, referred to the Committee on Banking and Currency. (*Amending Sherman Law.*) The bill amends Section 8 of the Sherman Anti-Trust Law by providing that nothing in the Act shall prohibit any private banker or any officer, director or employee of any bank or class A director of a Federal Reserve Bank, who shall first procure the consent of the Federal Reserve Board, which board is hereby authorized to grant, withhold or revoke such consent from being an officer, director or employee of not more than two other banks, banking associations or trust companies, whether organized under the laws of the United States or any state, if such other bank is not in substantial competition with such banker or member bank.

S. 4028. Introduced by Mr. Smoot, referred to the Committee on Interstate Commerce. (*Amending the Anti-Trust Law.*) The bill amends Section 10 of the Sherman Anti-Trust Law by adding the following paragraph, which provides "that none of the provisions of this section shall be construed to include or apply to any railroad or to any director, president, manager or other officer or agent thereof all of the shares of the capital stock of which, other than those used for qualifying its directors, or all of the property of which is owned by a person or corporation whose plant, shops, mills, factories or other properties such railroad is principally engaged in serving."

H. R. 13703. Introduced by Mr. Volstead, referred to the Committee on Judiciary. (*Association of Producers of Agricultural Products.*) The bill provides that any person engaged in the production of agricultural products, such as farmers, planters, ranchmen, dairymen and fruit growers, may act together in associations, corporate or otherwise, with or without capital stock, in collectively processing, preparing for market, handling and marketing in interstate and foreign commerce, such products of their members; and such producers may organize and make the necessary contracts and agreements to effect that purpose, any law notwithstanding to the contrary; with the provision, however, that such association is so organized that no member shall have more than one vote, regardless of the amount he may have contributed for use as capital. The profits upon the capital invested is limited to 7 per cent, and no person may receive as a dividend or profit upon such contributions more than 5 per cent. of the total net profits made by any such association in any one year.

S. 4344. Introduced by Mr. Capper, referred to the Committee on Judiciary. (*Association of Agricultural Producers.*) The bill is similar to a number of bills which have been introduced during the session, and provides that persons engaged in the production of agricultural products as farmers, planters, ranchmen, dairymen or fruit growers may act together in association, corporate or otherwise, with or without capital stock, in collectively processing, preparing for market, handling and marketing in interstate and foreign commerce, such products of their members and such producers may organize and operate such associations and make the necessary contracts and agreements to effect that purpose, any law to the contrary notwithstanding. Providing further, that such associations are operated for the mutual benefit of the members thereof. No

member is allowed to have more than one vote, and the association does not pay dividends on stock or membership capital in excess of 8 per cent. The Secretary of Agriculture, if he has reason to believe that such association is acting in restraint of trade, has authority to disperse the association, and the Department of Justice has power to enforce the orders issued by the Secretary of Agriculture.

H. R. 1186: Introduced by Mr. Steele and conferring additional powers upon the Federal Trade Commission. The bill provides that upon application for a license to transact interstate commerce, under the rules of practice and procedure as prescribed by the Federal Trade Commission, the applicants setting forth the nature and character of the interstate commerce to be transacted, the location of the principal office, place of business, and if a corporation, a copy of its certificate or articles of incorporation, the names and addresses of all its officers and stockholders and, if unincorporated, a copy of its articles or contract of association, and the names and addresses of the managers and members, the Commission shall proceed to make diligent inquiry into the facts set forth in the application and if satisfied that such interstate commerce does not constitute an unlawful monopoly, or an unreasonable restraint of trade or commerce, or unfair competition, or a detriment to the public, the commission shall grant the license so applied for, which license shall authorize the licensee to transact the interstate commerce set forth in the application.

WAR MINERALS

H. R. 13091. Introduced by Mr. Garland, referred to the Committee on Mines and Mining. (*War Mineral Relief.*) The bill provides for further relief to war minerals producers and amends the Act approved March 2, 1910, by amending Section 5 by striking out the words "that the decision of said Secretary shall be conclusive and final, subject to the limitations hereinafter provided." Paragraph 4 of this Section is amended by inserting after the words "that nothing in this section shall be construed to confer jurisdiction upon any court to entertain a suit against the United States" and the following words, "except as provided in Section 6." The Act of March 2 is also amended by adding at the end a new section which provides that any claimant who has filed a claim under Section 5 within three months after March 2, 1919, whose claim has been rejected or who is not satisfied with the decision, adjustment, liquidation or payment of net losses by the Secretary of the Interior under such section, may file a peti-

tion in the Court of Claims for the final determination of such losses.

ALASKA

S. 4205. Introduced by Mr. Nelson, referred to the Committee on Judiciary, from which committee it was on April 21 reported without amendment. The bill provides for the amendment of an act providing for civil government for Alaska by establishing a district court for the District of Alaska, with the jurisdiction of district courts of the United States, and with general jurisdiction in civil, criminal, equity and admiralty causes. Four district judges shall be appointed at a salary of \$7,500 per year. The bill defines the districts to which the four judges shall be appointed, and provides that a general term of court shall be held each year at Juneau, Nome, Valdez and Fairbanks.

H. R. 12909. Introduced by Mr. Grigsby, referred to the Committees on the Territories. (*Improvement of Alaska Transportation System.*) The bill provides for the creation of the Alaska Territorial Shipping Board, to be composed of the Governor, the Treasurer and the Secretary of the Territory of Alaska, which board is authorized to require all carriers, who shall have transported cargo or passengers, to file verified reports in the office of such board, showing in detail the places where the cargo and passengers were received and delivered, the number of passengers, the quantity of cargo by tons, the rates or charges and the revenue received therefor, and such other facts as may be necessary to compile and maintain the Territory. Each vessel will be required to carry a license if it carries more than twenty net tons.

PUBLIC LANDS

H. R. 13851. Introduced by Mr. Hayden, referred to the Committee on Indian Affairs. (*Mining on Indian Reservations.*) The bill proposes an amendment to the Leasing Bill, which shall make available the unallotted lands within Indian reservations whenever such lands, or such portions thereof as the Secretary of the Interior may determine, are declared by the said Secretary to be subject to exploration for and disposition of the minerals, in the form and manner provided by the Act, except that such lands may only be leased and patents shall not be issued for the same and except that all moneys received from royalties and rentals from such lands shall be deposited in the Treasury of the United States to the credit of the Indians belonging and having tribal rights on the reservation where the leased land is located.

The Secretary of the Interior is authorized, in his discretion, to lease unallotted Indian lands containing deposits of potassium, asbestos, precious stones and other non-metallic minerals under such terms and conditions not inconsistent with the Act as the Secretary may determine and announce by general regulations as best adapted to the development of such minerals. The bill specifically states that the Act will not apply to the five civilized tribes and Osage Nation of Indians in Oklahoma.

S. 3486.—Introduced by Mr. Smoot, referred to the Committee on Public Lands. Section two of the bill provides that the United States Government assumes, subject to the conditions of the Act, the payment to the several states of sums of money equivalent to the amounts which such states would receive from the taxation of public lands within their respective borders if such lands were owned by individuals.

ANNUAL ASSESSMENT WORK

H. J. Res. 349. Introduced by Mr. Raker, referred to the Committee on Mines and Mining. (*Suspending 1920 Assessment Work.*) The resolution provides that the provision of Section 2324 of the Revised Statutes of the United States, which requires on each mining claim located and until a patent has been issued therefor, not less than \$100 worth of labor to be performed, or improvements aggregating such amount to be made each year, be suspended as to all mining claims in the United States, including Alaska, during the calendar year 1920.

PETROLEUM

S. 361. Introduced by Mr. Cummins, referred to the Committee on Audit and Control. The resolution states that, whereas it is generally known that the available supply of oil for fuel is rapidly diminishing, and that the time may speedily come when our army transports, naval and merchant marine vessels will be compelled to depend upon coal to furnish their motive power; whereas when that time comes the coal fields yielding the quality of coal required for economical and efficient use on ships, and reasonably proximate to the various ports of the United States may either be exhausted or greatly advanced in value. It is resolved that the Committee on Naval Affairs of the Senate be directed to enter upon an investigation of the subject, and as soon as possible report to the Senate its recommendations: Whether it is probable that our army transports, naval and merchant vessels now equipped to use oil will be compelled again to use coal as fuel; whether the coal fields from which coal of

the proper quality for use on ships can be mined; what is the transportation cost of moving the coal from these fields to the various ports of the United States; and whether it would be good policy for the government to acquire such coal fields as may be necessary to furnish the supply that will be needed for government ships and our merchant marine, and what would be that probable cost of acquiring them at this time.

S. 4396. Introduced by Mr. Phelan, referred to the Committee on Public Lands. (*United States Oil Corporation*.) The bill provides for the incorporation of a company to be known as the United States Oil Corporation for the purpose of developing the oil resources of foreign countries. The corporation is to be controlled by a board of nine directors, to be appointed by the President. The board of directors shall elect a president and shall fix the compensation of its officers, experts and other employees. It may explore, develop, refine, transport and store petroleum and its products or whatever it produces, subject to a preferential right on the part of the United States government to take all of its supply, or a portion thereof, at any time, upon payment of the market price.

FIXED NITROGEN CORPORATION

H. R. 10329.—Introduced by Mr. Kahn. Referred to the Committee on Military Affairs, authorizes the Secretary of War to designate any five persons to act as an organization committee, which committee shall specifically state the name of the corporation to be organized, the name of such corporation to be the United States Fixed Nitrogen Corporation, which shall have the power—First, to adopt and use a corporate seal. Second, to have succession for a period of twenty years from its organization, unless sooner dissolved by an Act of Congress. Third, to make contracts. Fourth, to sue and be sued. Fifth, to appoint its board of directors and such other officers as may be necessary, etc. The corporation shall be conducted under the supervision and control of a board of directors, consisting of not less than three nor more than eleven members, to be appointed by the Secretary of War. The corporation so organized shall have the power: To purchase and operate United States nitrate fixation plants located at Sheffield, Alabama, and Muscle Shoals, Alabama, together with all real estate used in connection therewith, all tools, machinery, equipment, accessories, and materials, all laboratories, and plants used as auxiliaries thereto, including the fixed-nitrogen

research laboratory at Washington, the Waco Limestone quarry in Alabama, the electric power unit at the Warrior River Station of the Alabama Power Company, etc. They have power to establish other laboratories and plants as they may deem necessary in furnishing the government at all times with nitrogen products; to sell to the United States such products as may be manufactured for military or other purposes; to sell any or all of its products not required by the United States to producers or users of fertilizers; to enter into such agreements and reciprocal relations with others as may be deemed necessary or desirable to facilitate the production and sale of nitrogen products on the most scientific and economical basis; to purchase, lease, or otherwise acquire United States or foreign patents and processes, or the right to use such patents or processes; to sell and export any of its surplus products not purchased by the United States, or by persons within the United States.

LABOR

H. Con. Res. 50 (*Capital and Labor*). Introduced by Mr. Tinkham, referred to the Committee on the Judiciary, providing as follows:

"Whereas boards and commissions have been, and are from time to time established by the Congress and appointed to deal with the problems of labor and capital and to investigate industrial relations and prepare suitable recommendations as to legislation; and

"Whereas these bodies commonly comprise equal representation of the opposing industrial interests and of the general public interest; and

"Whereas the public representation, although intended to have the deciding vote, usually finds itself obliged to concur in agreements reached by the representatives of labor and capital: Therefore be it

Resolved, By the House of Representatives (the Senate concurring), That a clear majority of each board or commission which may hereafter be constituted for purposes of either regulation, inquiry, or counsel concerning the relations of labor and capital and any aspect of industrial relations shall be composed of the representatives of the paramount public interest."

S. 4107. Introduced by Mr. Sheppard, referred to the Committee on Interstate Commerce. (*Bureau of Interstate Co-operative Associations*.) The bill provides for the establishment, in the Department of Labor, of a bureau as above stated, to be headed by a commissioner, whose salary is \$5,000

per year. Section 2 provides that persons, not exceeding 50 in number, may associate themselves as a co-operative association for the purpose of conducting interstate business on the co-operative plan, provided they do not transact business for profit. Each member has one vote, and if any surplus accrues between cost and selling price, it must be used for the common good of the members, or returned to patrons in proportion to their purchases of sales. Articles of incorporation must be made out and filed with the Secretary of Labor, who shall issue a certificate of incorporation upon the payment of \$10 to the Department of Labor and \$5 for each amendment. Each association must be managed by a board of directors, of not less than five, and has the power to conduct an interstate business on the co-operative plan.

H. R. 10738, Collective Bargaining.—Introduced by Mr. Kelly, referred to the Committee on the Judiciary, providing for collective bargaining between employers and employees in all industries engaged in interstate commerce. The bill provides that the refusal of any individual firm, corporation, etc., engaged in interstate commerce, that engages or uses the services of any employee for wage, salary, or other valuable consideration to bargain collectively with such employees, through their duly chosen representatives, is unlawful. Section two provides that the denial or interference, by any such employer engaged in interstate commerce, with the right of employees to organize in trade unions; the denial or abridging of or interference by any employee, with the right of such employees to organize in associations or groups; the discharge by any such employer of employees for membership in trades unions or for legitimate trade-union activities, and the use by any employees of coercive measures to induce persons to join their organizations, is unlawful.

S. 3496, Employers' Liability.—Introduced by Mr. Sutherland, referred to the Committee on Education and Labor, amending the act to provide compensation for employees of the United States suffering injuries while in the performance of their duties. Section four of the original bill is amended to provide that if the disability is partial the United States shall pay to the disabled employee during such disability a monthly compensation equal to such percentage of the compensation paid in case of total disability as the difference between his monthly pay and his wage-earning capacity after the beginning of such partial disability bears to his monthly pay.

H. R. 10736, Bolshevism.—Introduced by Mr. Kelley of Michigan, referred to the Committee on the Judiciary, providing that the advocacy or teaching of criminal syndicalism is a felony, and punishable, and that any person who by word of mouth or writing advocates the necessity or propriety of crime, sabotage, violence, or any method of terrorism for the overthrow of a republican form of government; or organizes or helps to organize, or becomes a member of, voluntarily assembles with any society, group or assemblage of persons formed to teach or advocate the teaching of the doctrine of criminal syndicalism, is guilty of a felony and is, therefore punishable by imprisonment not exceeding ten years, or by a fine not exceeding \$10,000, or both.

H. R. 11430, Sedition.—Introduced by Mr. Graham, and referred to the Committee on the Judiciary, from which committee it was reported January 12, amended as follows:

"The bill provides that whoever incites, sets on foot, assists or engages in any rebellion against the United States or the authority of laws thereof or whoever assists or engages in the use of force or violence with intent to destroy or cause to be changed, or to overthrow the government of the United States, and the death of any person or persons is caused or results directly therefrom, shall be guilty of a felony, and on conviction shall be punished by death, or shall be imprisoned for not more than twenty years or fined not more than \$20,000, or both, and shall forever be debarred from holding office under the United States; in case death does not result, on conviction such persons shall be imprisoned not more than twenty years or fined not more than \$20,000, or both."

H. R. 12320 (Suspending Immigration). Introduced by Mr. Johnson, referred to the Committee on Immigration and Naturalization. Section two of the bill provides that from fifteen days after the passage of the act until the expiration of two years, the immigration of aliens to the United States is prohibited.

OIL SHALE

S. 2671: Introduced by Mr. Henderson and referred to the Committee on Mines and Mining. The bill authorizes the Secretary of the Interior to make experiments and investigations through the Bureau of Mines of oil shale, to determine the commercial and economic practicability of its utilization as a commercial product. One hundred and forty thousand dollars is appropriated to carry on the expense of the investigation.

FEDERAL TRADE COMMISSION

H. R. 429: Introduced by Mr. McClintic, to amend the Federal Trade Commission bill. The bill provides that upon passage of the act it shall be unlawful for any person, partnership or corporation engaged in commerce, to offer for sale any stocks, bonds or other securities in the United States without first submitting to the commission a notice of such intention to so offer for sale such stocks, together with a report of the business engaged in, showing in detail the amount of capital invested or capital stock issued.

S. Res. 217.—Submitted by Mr. Watson, referred to the Committee on Audit and Control, from which committee it was reported, without amendment, December 3rd, considered, amended, and agreed to as follows: "Whereas it is charged that a number of the employees of the Federal Trade Commission have been and now are engaged in socialistic and bolshevistic propaganda and in furthering the organization and growth of socialistic and bolshevistic organizations; and

Whereas if Bolshevism, with all that it implies, is to be met and overcome in our country it must be done by first ousting all its adherents and advocates from public office, therefore be it

Resolved, That the Committee on Interstate Commerce of the Senate is hereby authorized and directed, by subcommittee or otherwise, to inquire into and report to the Senate at the earliest practical date upon the truthfulness of these charges.

DEPARTMENT OF PUBLIC WORKS

H. R. 6649: Introduced by Mr. Reavis, of Nebraska. This bill, prepared by the Engineering Council, provides that the Department of the Interior be changed to the Department of Public Works, and that the now Secretary of the Interior be designated as the Secretary of Public Works. When the present term of the Secretary of the Interior shall expire, all subsequent occupants shall by training and experience be qualified to administer the affairs of the department. Except as hereinafter stated, all bureaus now included under the Interior Department are transferred to the proposed Department of Public Works.

The Patent Office under the act is transferred to the Department of Commerce; the Bureau of Pensions to the Treasury; the Bureau of Education to the Labor Department; the Bureau of Indian Affairs, and Board of Indian Commissioners, to the Labor Department, with the special proviso that all engineering and construction work,

and mineral land surveys now formed by the Bureau of Indian Affairs, shall be performed under the Department of Public Works.

The Department of Public Works shall take over the Supervising Architect's office, now controlled by the Treasury Department, the Construction Division of the United States Army, River and Harbor Improvements, the Mississippi River Commission, and the California Debris Commission, now controlled by the War Department. Engineer officers now assigned to non-military work are to be detailed for duty under the Department of Public Works, until civil transfer has been satisfactorily accomplished.

Four Assistant Secretaries of Public Works are provided for, each specially qualified for his particular work, and who can be removed only for inefficiency or legitimate cause.

DIVISION MINES AND GEOLOGY

S. 4369. Introduced by Mr. Henderson, referred to the Committee on Mines and Mining. The bill provides for the establishment in the Department of the Interior of a Division of Mines and Geology, to be under the control and direction of an Assistant Secretary of the Interior, which secretary shall be technically qualified by experience and education to exercise the powers and duties imposed by the bill. He is to be appointed by the President, and to receive \$10,000 a year. Section 2 provides that all powers and duties now conferred or imposed by law upon the Bureau of Mines and the Geological Survey or the directors and members thereof, which in the opinion of the president, relate to mining, metallurgy and mineral technology or the Geological Survey, the classification of the public lands, and the examination of the geological structure, mineral resources and products of the national domain, are hereby vested and imposed in the Division of Mines and Geology. All officers and employees of the bureau and survey, or of such part of any department, commission, bureau, agency, or office the powers and duties of which are hereby vested and imposed or authorized to be vested and imposed in the Division of Mines and Geology, shall become officers and employees of the Division of Mines and Geology, and all records, books, documents, papers, etc., belonging to the Bureau of Mines and the Geological Survey shall become the property of the division. Section 3 provides that the Assistant Secretary of the Interior in charge of this division, subject to the approval of the Secretary of the Interior, may appoint, remove and fix the compensation of the officers and employees in the division as may from time to time be provided for by Congress. All such

appointments, except to any position carrying a salary of \$5,000 a year or over, shall be made from lists of eligibles furnished by the Civil Service Commission. The act shall become effective 30 days from and after its passage.

NATIONAL BUDGET

H. J. Res. 298. Introduced by Mr. Moore, referred to the Committee on Rules. The bill is intended to make more efficient the administration of the business offices of the government, and provides that the Speaker of the House appoint five members of the House and the president of the Senate five members of the Senate, who shall constitute a Select Joint Committee on the Organization, Activities, and Methods of Business of the administrative branch of the government. This committee shall make a study of the general purpose of each distinct administrative service of the government, and the manner in which it is organized; its method of business and the clerical force employed; the system of accounts kept and reports rendered by it, so as to make known the character and amount of its revenues and expenditures; the manner in which appropriations are now made for its support and any other facts that may be pertinent. The committee is empowered to determine what changes should be made in respect to the laws governing the methods of business of each such service with a view to the better discharge of the functions for which it is created; to determine what redistribution of activities should be made among the several services, with a view to having their activities performed by those services to which they more properly and logically belong. They should also determine what regrouping of services departmentally, and what new executive departments or bureaus of existing departments should be provided for. They shall provide that each executive department or bureau shall embrace only services having close working relations with each other, and ministering directly to the primary purpose for which the same is maintained and operated. The bill distinctly provides that the committee shall particularly determine the advisability of removing from the War and Navy Departments all services and the performance of all activities which are not of a direct military or naval character; for the removal from the Treasury Department all services not pertaining strictly to the administration of financial affairs. It also provides for the creation of a Department or Bureau of Public Works to take over all services having for their primary purpose the construction and operation of works of an engineering and construction

character; for the creation of a Department or Bureau of Education and Science to take over the services now scattered among the several executive departments, or existing as independent establishments; for the creation of a Department or Bureau of Public Health; the creation of a Department or Bureau of Maritime Affairs. The committee shall make a study of existing laws providing for the organization, defining the powers and duties, and regulating the methods of business of the several departments, independent establishments, bureaus, and other services with a view to their revision and assembly into a consistent and logically arranged administrative code, similar to codes now in effect in some of the states. The committee is authorized to employ such assistance as is necessary, expenditures to be paid in equal parts from the contingent funds of the House of Representatives and the Senate.

1,354,226—*Frances L. Stewart*, Washington, D. C. Assigned to International Conveyor Corp., New York, N. Y.

APPARATUS FOR STORING COAL, ORE AND OTHER MATERIAL comprising a truck supported frame having a wheel supported lower portion and an inclined upper portion, an endless inclined conveyor belt having a delivery portion arranged above the inclined part of the frame, and a return portion arranged immediately below said inclined part of the frame, motor mechanism on said frame for driving said belt, a delivery conveyor associated with said inclined conveyor belt and receiving material from its upper end, an automobile truck connected to said before-mentioned conveyor frame, a turn table on said truck, motor mechanism for operating the turn table, a frame supported by the turn table to which the delivery conveyor is connected to move about a horizontal axis, and a motor mechanism for turning the delivery conveyor.

Cost Bulletins Suspended.

The Federal Trade Commission has announced the suspension of bituminous coal cost bulletins pending final decision by the courts on the constitutional power of Congress to authorize the commission to compel mine operators to furnish the necessary information. The commission announced last May the likelihood of the suspension of these bulletins unless a necessary number of operators should furnish voluntary reports. After this announcement was made a still fewer number of operators turned in reports, hence the decision that the June bulletin should be the last.



By C. H. FARRELL.

REPORT OF INTERSTATE COMMERCE COMMISSION.

The Interstate Commerce Commission has just sent to Congress its thirty-fourth annual report, giving in detail its activities during the last year and making recommendations to Congress as to future amendments to existing law. The commission desires that the law be so amended as to make possible partial payments of the guarantee to which carriers are entitled for the first six months after federal control ceased. The Secretary of the Treasury has refused to make these partial payments, insisting that only one certificate can be issued by the commission and that this certificate must include final settlement. This same matter is now pending in the Supreme Court of the District of Columbia in a mandamus suit brought by the Grand Trunk Western Railway to compel the Secretary of the Treasury to honor a certificate for partial payment of its guarantee already issued.

Recommendation is also made that the law be amended so as to provide for the punishment of any person offering or giving to an employee of a carrier subject to the act any money or thing of value with intent to influence his action or decision with respect to car service, and to provide also for the punishment of a guilty employee who accepts such an offer. Certain increases in the number and salaries of locomotive boiler inspectors is also asked for, together with additional legislation

governing the transportation of explosives and other dangerous articles.

The commission renews its recommendations stated in previous reports that steel cars in passenger train service be required and that the use of wooden cars between or in front of steel cars be prohibited.

It is also the commission's desire, as previously recommended, that the power to award reparation be placed wholly in the courts, that a condition precedent to award of reparation by a court for unreasonable rates or charges be that the commission has found such rates or charges unreasonable as of a particular time, that the law affirmatively recognize that private damages do not necessarily follow a violation of the act, that no person be entitled to reparation except to the extent that he shows he has suffered damage, and that the rule of damages laid down in the International Coal Case, 230 U. S., 184, should control.

Intrastate Rate Controversy.

The controversy that has been going on for some time regarding the conflict between the jurisdiction of the Interstate Commerce Commission and the various state commissions has been brought to a climax following the decisions of the Interstate Commerce Commission in the New York and Illinois cases. Following the general rate increase allowed by the commission, effective with the end of the guarantee period, the carriers filed with the various state commissions applications to make within the states the same increases as had been allowed between the states by the federal commission. Twenty-four of the states allowed these increases in full as far as freight is concerned, and twenty-three allowed them for passenger traffic. Seventeen states approved

the freight increases with exceptions, and seven approved the passenger increases with exceptions. Five of the states allowed smaller percentage increases in freight than had been approved by the federal commission. Two of the states denied all freight increases, and three denied all passenger increases. Thirteen states held that no increase could be allowed in passenger rates because statutory provisions prevented such action, and two of the states denied the passenger increases in part.

The action of the state commissions in these various states was brought to the attention of the federal commission and an investigation begun by that body into the situation in each state. To date two opinions have been handed down, one in the New York case, and one in the Illinois case. Both of these opinions hold that the intrastate passenger rates (no decision has yet been made as to freight rates) are lower than the corresponding interstate fares authorized by the federal commission and are unduly preferential of intrastate passengers, unduly prejudicial to interstate passengers, and unjustly discriminatory against interstate commerce. These findings are followed by orders requiring the carriers to bring the intrastate rates up to the interstate level.

The commission is continuing with its other investigations, and will undoubtedly issue similar orders as to the other states. Meanwhile, the state commissions are getting ready for a legal battle to determine whether the transportation act gives to the commission the authority which it has assumed over intrastate rates. So far the only legal expression is an order of the supreme court of New York enjoining the carriers from putting into effect the Interstate Commerce Commission's order and leaving them the choice of being in contempt either of the court or of the federal commission, as they may choose. It is probable that the railroads will appeal to a federal court and attempt to get the preliminary restraining order of the state court set aside. This will open up an appeal to the Supreme Court of the United States, where the battle must be finally settled; although it will undoubtedly be heard of frequently in the coming Congress, regardless of how the Supreme Court may rule.

The tendency in the past few years has been toward centralization of control over rates, and it is held by those who approve of this trend that if the federal commission is to be made responsible for the revenues of the carriers, as it is at the present time, that same commission must have authority to keep the state commissions from lowering rates to such a level as will make it neces-

MINE TONNAGE LEADS ALL

Products of mines provided more than fifty per cent of the total revenue freight carried in carload lots by Class 1 railroads during the quarter ended June 30, 1920. The Interstate Commerce Commission in its summary of freight commodity statistics for this period reports that the total revenue freight carried in carload lots on all the roads aggregated 497,664,390 tons, of which the mines furnished 272,479,656 tons, products of agriculture 43,445,220 tons, products of animals, 10,743,059 tons, products of forests 49,631,766 tons, and manufactures and miscellaneous 121,664,680 tons.

These figures relate to original tonnage only, and do not take into consideration the large proportion of mine products entering into the make-up of manufactured and other miscellaneous articles. As a matter of fact, the largest subdivisions under the classification of manufactures consist of manufactured products of mines, as, for instance refined petroleum and petroleum products, which provided 14,250,057 tons; iron, pig and bloom, 6,888,194 tons; rails and fastenings, 1,503,457 tons; bar and sheet iron, structural iron and iron pipe, 13,505,832; other metals, pig, bar and sheet, 2,916,030 tons; castings, machinery and boilers, 4,701,191 tons. Under the same heading there are listed shipments of cement, agricultural implements, automobiles and numerous other articles derived wholly or mainly from mine products.

The total shipments of mine products during the quarter were as follows: anthracite coal, 31,129,687 tons; bituminous coal, 144,470,058; coke, 9,432,251; iron ore, 33,906,503; other ores and concentrates, 8,464,693; base bullion and matte, 627,206; clay, gravel, sand and stone, 34,340,843; crude petroleum, 3,119,275 asphaltum, 796,067 salt 1,889,022; other products of mines, 4,001,051.

sary to put interstate rates out of all proportion in order to give the carriers the guarantee which the present transportation act assures them of.

While the revenue derived from intrastate traffic in any specific state is perhaps small, it assumes rather large proportions when multiplied by half of the number of states in the Union, and the testimony so far

offered in these various cases indicates quite clearly that interstate fares and charges are being materially reduced by the practice of purchasing one ticket to the state line and then another ticket for the balance of the journey.

Operating Statistics.

Continued improvement in transportation conditions is being shown by the carriers under private management, and there is, at the present time, an actual surplus of cars over requirements for the country as a whole, although at some points there is still a slight shortage, which is being remedied as rapidly as possible. The carriers have succeeded in bringing up the average daily freight car movement very close to the goal of thirty miles, and the loading per car is rapidly approaching an average of thirty tons. These figures are thought to be about as good as the carriers can reach under present conditions, and if those averages are maintained all traffic offered should be handled promptly.

The last figures available are for August and show that the Class 1 roads of this country produce in exclusively freight service 42,656,000,000 net ton miles, which exceeds August, 1919, by 6,240,000,000 net ton miles and is a substantial increase over the same month in 1918. Compared with the same month last year this is an increase of 17.1 per cent in net ton miles, 15.4 per cent in train miles, and 9.8 per cent in loaded car miles. The train load increased 1.4 per cent, and the car load increased 6.7 per cent.

During the eight months ended with August, compared with last year, the net ton miles increased 17.0 per cent, train miles 15.4 per cent, and loaded car miles 14.7 per cent. The train load increased 1.4 per cent, and the car load 1.8 per cent.

RAILROAD'S EARNINGS ON MINE PRODUCTS FOR 1919

According to Interstate Commerce Commission figures, originating railroads under federal control in 1919 enjoyed an income on mine products of \$576,268,398. This amount was derived from the various districts as follows:

Eastern, \$305,401,757; southern, \$112,285,105; and western, \$158,581,546. Equipment owned or leased, in service at the close of the year, included 943,168 coal cars and 9,654 tank cars. The coal cars were in districts as follows: Eastern, 596,253; southern, 193,565; and western, 153,368. Tank cars: Eastern, 472; southern, 27; and western, 9,155.

For railroads not under federal control,

the income from their traffic movement of products of mines originating on the roads was \$13,466,714, of which \$3,766,572 was in the eastern district and \$9,700,142 in the western district. These railroads at the close of the year had in service 8,239 coal cars, of which 4,840 were in the eastern district and 3,399 in the western. Also 60 tank cars all in the western district.

For switching and terminal companies under federal control, the report shows the equipment in service at the close of the year, included 1,594 coal cars, of which 1,175 were in the eastern district and 419 in the western; these companies had no tank cars in service at the close of the year.

For switching and terminal companies not under federal control, the report shows equipment leased or owned in service at the close of the year, includes 6,998 coal cars, all in the eastern district, and 5 tank cars also in the eastern district.

PETROLEUM INSTITUTE CONVENTION

At the convention of the American Petroleum Institute held in Washington last month Norman H. Davis, under secretary of state, in the course of an address took the position that to organize a corporation financed and controlled by the government to acquire petroleum properties abroad would introduce new and serious complications into America's foreign relations "which could only be justified by a pressing economic necessity." He said the State Department was in cordial sympathy, however, with the development of oil fields abroad by American individuals and firms.

The institute elected the following officers:

Thomas O'Donnell, president; S. Messer, Henry L. Doherty and J. W. Van Dyke, vice presidents; H. F. Sinclair, treasurer; R. L. Welch, general secretary and counsel; C. C. Smith, assistant general secretary and assistant treasurer.

Directors—John Barneson, Frank Haskell, J. H. Barr, A. C. Bedford, R. D. Henson, H. M. Blackmer, Judge M. J. Byrne, Martin Carey, Judge C. I. Chamberlin, E. W. Clark, A. P. Coombe, J. S. Cosden, George W. Crawford, B. G. Dawes, E. L. Doheny, Henry L. Doherty, J. C. Donnell, W. S. Farish, H. E. Felton, H. R. Gallagher, J. F. Guffey, F. B. Henderson, K. R. Kingsbury, Fred W. Lehmann, Jr.; C. L. Maguire, Dr. Van H. Manning, J. H. Markham, Jr.; S. Messer, Thomas A. O'Donnell, J. E. O'Neil, J. Howard Pew, Edward Prizer, E. E. Schock, H. F. Sinclair, L. P. St. Clair, Col. R. W. Stewart, G. I. Sweney, W. C. Teagle, J. W. Van Dyke, A. C. Woodman.



PUBLIC OPINION

President-elect Warren G. Harding has expressed himself forcibly on the question of a protective tariff for the zinc industry. In a telegram to Paul Ewert, Chairman of the Zinc Ore Tariff Commission of the Joplin, Missouri, Chamber of Commerce, Senator Harding said:

"I am more or less familiar with the conditions in the Joplin mining district and find your statement properly suggestive of what is now going on in many other parts of the country.

"You inform me that up to 1916 southwestern Missouri was the largest zinc mining district in the world; that the demands of the European war made the district temporarily very prosperous, but that the Democrats had removed the tariff on zinc ore, of which great quantities were imported in 1916 and 1917; that during the last session of Congress efforts were made to have a really protective duty on zinc ore restored, but that it failed and you add:

"Zinc ore in 1916 and 1917 was imported from 196 different countries. It was sent directly to our smelters and delivered for half of what it cost us to produce it. Our mines began to close down in 1917 and last week every mining district closed, throwing out of employment 15,000 men. Of course, the demand for zinc ore is low now, but the cause of this was the immense importation of zinc ore which was made into spelter and which produced such a tremendous surplus that our own ores remained unsold in the bin."

"The case of Joplin district zinc is a typical one. The Democrats removed the protection from zinc, that procedure being one of the fundamentals of their political creed. Zinc was merely one of a great number of our American products that suffered precisely the same fate

when the Democratic tariff policy was applied.

"Under the Democratic tariff law of 1913, the country was already approaching industrial disaster when the world war began. What happened in the case of zinc also happened to many other industries. The foreign demand was so great and prices were so unimportant that everything we could produce was promptly taken by the warring nations. So the disaster was postponed. But with the end of the war the foreign demand not only for zinc, but for a great number of other products whose production had been removed, immediately fell off.

"The story of zinc since that time is simply an epitome of the story of American industries generally. With demand reduced and with foreign competition desperately seeking our unprotected markets, we have suddenly found ourselves at the beginning of an era in which, unless the American policy of protection is resumed, we are bound to become more and more the dumping ground for the products of all the world. Produced by cheaper labor, they must inevitably drive our own products out of our own markets, compel the suspension of production at home and bring idleness and suffering, not merely to the thousands of workers in a particular industry, but to the millions of workers in hundreds of industries.

"Along with this disaster to the mining and industrial interests has come a similar disaster to American agriculture. The recent slump in the prices of agricultural products has brought a great hardship to American agriculture. Vast crops were raised under conditions which made them extremely costly, and now that the farmers have them in hand they find that prices have fallen so suddenly and rapidly that enormous losses must be sustained.

"To all who are bringing this story of continuing losses and impending disaster

the Republican party makes the same reply. It is our reply to the producers of zinc and of wool and of every other article that depends upon the insurance that at least the American market shall be secured to American industry. We reply that when the Republican party is restored to control of the government after March 4 next there will be a prompt return to the American system of protection for American industry. The policy has been to equalize the cost of production at home and abroad.

"As to zinc, it is my recollection that the Republican members of the Senate Sub-committee on Finance, Senators Watson and Curtis, voted to report favorably the tariff bill desired by the American zinc producers providing for a tariff of two cents per pound on the metallic contents of imported zinc ores, but the Democratic members voted against it. When I am President, if such a measure is again urged and if it is found to comply with the Republican formula of imposing sufficient tariff to measure the difference between cost of production at home and abroad, I shall certainly give my support to it.

"Broadly speaking, this is the Republican tariff policy as it has been in the past, and when the Republican party returns to power it will be reinstated as early as possible."

A. W. Douglas, vice president of Simmons Hardware Company, in a report to the Chamber of Commerce of the United States recently expressed some interesting views concerning the much talked of stabilization of prices. Mr. Douglas said:

"Talk of stabilizing prices so as to save the situation no longer interests anyone save a few theorists. Supply and demand will regulate everything in time. The entire business world is trending to the readjustment we have talked about so long. We have been through it before several times, and again will go through it with success. This time it is robbed of the terror of financial panic because the federal reserve system will be a refuge.

"The commercial world is setting its house in order by reducing commitments, collecting outstanding accounts and bringing stocks of merchandise to requirements of reduced demand. This is being done advisedly. Merchandise stocks will be less by first of the year.

"Depression in farming communities

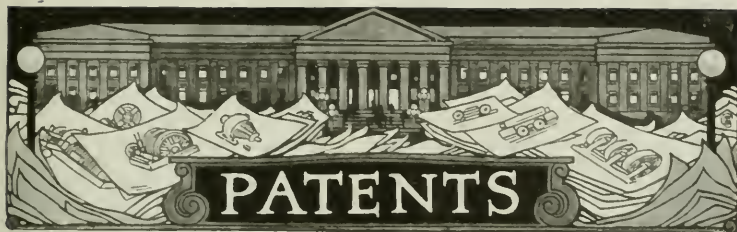
because of low prices is neither so severe nor so lasting as in industrial regions. Natural operation of laws of supply and demand tend to remedy all troubles. Ultimately, we will be the better for what we are going through."

One of the chief arguments in favor of the six-hour day for labor includes the principle that within a few years industry will be unable to furnish enough work to go around to employ all of its labor for eight hours per day. The *Wall Street Journal*, in a recent issue, has an interesting editorial under the caption "Diluting the Soup." We quote it in full:

"There is less employment now than there was six months ago; there may be still less in the coming six months. Now, as ever before, labor leaders advocate a characteristic remedy for the situation. The principle is so sound from the labor theory of economics that it was discussed in the Montreal meeting of the federation. Briefly, the idea is to reduce the work-day to six hours in order to make a little go further. Mrs. Wiggs of the Cabbage Patch used this same idea in her domestic economy. When unexpected guests came to dinner and there was not enough soup to go around, she poured more water into it.

"The whole idea of artificial employment is as senseless as this. A bowl of hot water will give no nourishment to a hungry person. Neither will dilution of work put bread on the workingman's table. Wages come from the product of the factory. In order to get more a man must earn more. Spending twelve hours on what should be done in six does not give the worker twice as much work; it merely helps to increase the cost of the product. Indirectly, this would affect every other commodity in the market.

"Price reductions are not secured by increasing the period of leisure or so-called rest. Unless producers produce there will not be enough profit to pay wages. Resting does not put shoes on children's feet. There are times when efficiency, willingness and common sense are needed. Not working more hours and doing less, but doing more in the usual time, is the need. 'Give and it shall be given unto you,' say the Scriptures, 'good measure, pressed down and running over.' Applied to the labor attitude, that would produce better results than the plan of diluting the soup."



CONDUCTED BY JOHN BOYLE, JR.

APPEAL ON BEHALF OF THE NOLAN PATENT OFFICE BILL.

The Committee on Patents of the Engineering Council has appealed to the members of the American Mining Congress to use their influence in behalf of the passage of the Nolan Patent Office Bill, House Resolution 11,984, in the exact form in which it was adopted by the lower house of Congress. This is a bill to increase the examining and clerical forces of the Patent Office, to raise salaries to a point commensurate with services rendered and pay received in business, and to make possible the efficient rendition of Patent Office services.

Patent Office work during the last fiscal year increased 36 per cent. Salaries of examiners, except for a war bonus, have only been increased 19 per cent in 70 years. They are so low that writing out resignations has become a popular indoor sport. About 25 per cent of the entire force quits the service every twelve months. As a result according to the Engineering Council, some of the examiners are unqualified for their work, and defective patents are granted which cause much avoidable litigation as well as expense and disappointment to patentees. The Nolan bill was introduced in Congress to correct all these troubles.

This bill provided for an increase of 5.8 per cent in the examining force of the Patent Office and of 3.9 per cent in the clerical force, in addition to lifting salaries to the level of those of other government departments. Additional expenditures contemplated under the bill were

covered by increases in patent fees provided therein. When this bill reached the Senate it was amended so that instead of increasing it decreased the examining corps by 15.7 per cent and reduced the clerical force by about 1 per cent, and likewise reduced both the salaries of the examining and clerical forces. As a result of the Senate amendment the payroll is reduced 5.9 per cent, notwithstanding the fact that the increase in fees for patents which were designed to provide funds for increased forces and salaries was retained in the bill.

The Engineering Council appeals to members of the American Mining Congress to write or telegraph their senators and representatives urging their support for the bill exactly as it passed the lower house, and requesting also that it be free from riders and all other incumbrances.

Edwin J. Prindle is chairman and J. Parke Channing is secretary of the committee making the appeal.

1,354,497—*F. M. Lewis*, Seattle, Washington.

AMALGAMATOR.

1,354,550—*Georg. Glockmeier*, Luderitzbucht, South West Protectorate, South Africa. CONCENTRATOR, Jig, comprising an upwardly domed sieve having concentrate discharge openings in an annular zone near to the center, and a feed device arranged to feed jig material to a restricted area in the center of the sieve.

1,354,694—*Charles E. Sayce*, Rochester, N. Y.

OIL WELL CONTROLLER

1,354,757—*A. G. Popcke*, Swissvale, Penn., and *W. R. Johnston, Parsons*, New Mexico.
APPARATUS FOR TREATING OIL WELLS.

1,354,769—*R. E. Leonard*, Los Angeles, Cal.
CONTROLLING MEANS FOR WELL DRILLING TOOL STRINGS.

1,354,831—*Robert H. Jeffrey*, Columbus, Ohio. Assigned to the *Jeffrey Mfg. Co.*

MIXING MACHINE. The invention relates to either the side-cutting type or the vertical-cutting type, or both; the invention providing means for cutting a series of horizontal thin or narrow kerfs at distances apart suitable for the subsequent breaking down of the coal, and also for blocking off the coal face by an additional series of vertical kerfs to facilitate the breaking down, preserve the coal principally in large blocks and diminish the amount of slack. The vertical kerfs are formed by the same kerf cutters or saws as are the horizontal kerfs, but for the former purpose the saws are adjusted to vertical position. The parts are mounted on a frame which is arranged to slide on the mine floor in any direction.

1,354,944—*Carl Biernat*, Glasford, Ill.
MIXING DRILL.

1,355,007—*J. A. Schooling*, Frankfort, Ind.
MINER'S LAMP KIT.

1,355,070—*Charles Allen*, El Paso, Texas.
SEPARATOR, having a container wherein the finer particles overflow the rim and the feed is introduced into the container at a point below the normal level of the material to be separated; and has for its objects to prevent agitation in the container in which the separation is to be made and to confine what agitation cannot be avoided as far away from the rim as is possible, whereby to make the velocity of approach of the finer particles to the overflow lip uniform and quiet and free of eddies.

When the material to be separated enters the container through a spout that extends into the fluid contents, the line of least resistance for it to reach the surface of the material is close around the outside of the inlet spout, and in taking this path it causes a strong agitation of the surface of the contents of the container, which extends over considerable area of the surface unless means be provided to confine it to a more restricted portion. To obtain the best results in classifying, settling or thickening, there should be no agitation on the surface, particularly in the vicinity of the overflow lip of the container.

1,356,465—*Frank Pardee*, Hazelton, Pa.

COAL BREAKER, including a movable supporting table, means for breaking lumps on said table and fingers actuated upon the movement of the table for ejecting the broken portions of the lumps from the table and preventing the escape of the unbroken portions from the table.

1,356,608—*J. V. Door*, New York City.

SLIME THICKENER. The customary means for moving the scrapers across the thickened matter collected upon the bottom of the settling tank while efficient if used in connection with tanks of ordinary size, have been found to be inadequate in tanks of greater capacity. For large tanks there is provided a circular track for the support of the outer end of a driving arm or sweep with which the scraper element is connected. The element is rotatably supported on a pedestal erected upon a suitable foundation in the center of the settling tank and it is capable of a limited self-adjustment to compensate for variation in the elevation and radius of the track, due to expansion and contraction or other conditions. The scraping element is rotated by a traction wheel riding along the track in connection with a motor which is carried upon a truck at the outer end of the arm. An automatic signaling device is connected with the moving part to indicate by an alarm, when by insufficient traction or an overload, the movement of the scraping element is reduced beyond a certain degree.

1,356,832—*J. P. Ruth, Jr.*, Denver, Colo.

FLOTATION PROCESS, comprising the addition of naphthalene to the pulp as a frothing agent.

1,356,849—*Emile Bracq*, Pas de Calais, France.

FURNACE FOR ORE ROASTING of the superposed annular hearth type with vertical stirring arms.

1,357,119—*W. A. Roister*, Detroit, Mich.

COAL CAR COVER, comprising a plurality of longitudinally spaced transversely extending semi-circular supports, the end supports having slots formed in their inner faces, a plurality of laterally spaced longitudinally slats mounted on the curved outer faces of the intermediate supports and having longitudinal tongues at their terminals to fit in the slots of the end supports, and means for hingedly connecting one side edge of said cover to a car.

WASHINGTON NEWS BRIEFS

HOOVER HEADS FEDERATED AMERICAN ENGINEERING SOCIETIES

The Federated American Engineering Societies formed a permanent organization and decided upon the scope of its activities at a meeting held in Washington, November 8, 1920.

Herbert Hoover, president of the American Institute of Mining and Metallurgical Engineers, was elected president of the Federated American Engineering Societies. Washington was selected tentatively as headquarters. The secretary will be chosen later by the Board of directors. Other officers were elected as follows: vice presidents for two years, Calvert Townley, of the American Institute of Electrical Engineers, New York, and William E. Rolfe, of the Associated Engineering Societies of St. Louis; vice presidents for one year, J. Parke Channing, American Institute of Mining and Metallurgical Engineers, and Dexter S. Kimball, Ithaca, New York, American Institute of Mechanical Engineers; treasurer, L. W. Wallace, Baltimore, Society of Industrial Engineers.

*Ship Board Fuel Oil Needs.

Fuel oil requirements of the U. S. Shipping Board for 1921 will amount to approximately 40,000,000 barrels. This estimate has just been made and announced by the chairman of the board, Admiral W. S. Benson. The board's requirements during 1919 amounted to 18,000,000 barrels and during the current year to 30,000,000 barrels.

INTERIOR SECRETARY CANNOT REVIEW HIS OWN DECISIONS

The acting comptroller of the treasury, C. M. Foree, has ruled that the Secretary of the Interior is without authority to review his own decision in a war minerals award. An award made is not only final, but is also held to be complete, and the secretary cannot even make an additional allowance upon any claim for which an allowance has already been made and accepted.

Samuel H. Dolbear filed a claim under the war minerals relief act for in excess

of fifteen thousand dollars; an accountant representing the Secretary of the Interior audited his claims and deducted one item amounting to \$2,845.37. The War Minerals Relief Commission certified Dolbear was entitled to reimbursement in the sum of \$10,955.15. Dolbear accepted this award in writing and received check for this amount.

Two months later, or on March 20, 1920, Dolbear filed a supplemental claim for \$2,845.37, stating that in accepting the award previously made he was under the misapprehension that the statement of the accountant of the Interior Department that the item was deductible was correct. On May 18, 1920, the Secretary of the Interior made an additional award of \$2,845.35, but the auditor of the Interior Department disallowed the claim.

The Secretary of the Interior applied to the comptroller of the treasury for a revision of the action of the auditor of the Interior Department. The acting comptroller ruled that the jurisdiction of the Secretary of the Interior in the settlement of claims under the war minerals act is final and conclusive—so final and conclusive that the Secretary of the Interior himself has no power to review his own settlements. He notified Dolbear that "it is held that the action of the Secretary of the Interior on the first claim and your acceptance thereof constitute a complete award, and that no authority exists under the act of March 2, 1919, for a review of the case by the Secretary of the Interior in your interest."

OSAGE AND WILD TRIBE LEASE LIMIT REGULATIONS CHANGED

Secretary of the Interior Payne has revoked the 4,800-acre lease limitation on lands in the Osage and Wild Tribe reservations of Oklahoma. In the western half of the Osage no limit will be placed on the acreage which may be leased. In the eastern half the acreage which may be leased is increased to 20,000 acres. In the Wild Tribe lands 9,600 acres may be leased.

Miners to Aid Soldiers.

In an announcement that opportunity will be given qualified soldiers to obtain college training, the War Department states that the Colorado School of Mines and the Montana State School of Mines have expressed a willingness to co-operate.

U. S. SERVED OTHERS BUT COULD NOT SERVE ITSELF

The government, which through various bureaus allotted quotas to different communities and in divers ways controlled the distribution of coal in the United States, was compelled to appeal to the coal operators to get some fuel for itself. So states George S. Pope, chief engineer of the Bureau of Mines, in a report to the director written a fortnight ago.

In his report Mr. Pope did not attempt to recount in full all of his difficulties in getting coal for the government yards which supply fuel to several departments in Washington. He touched only upon the high spots, practically all of which were trouble areas. On April 1 he asked for bids on approximately 250,000 tons of bituminous, but received only three responses and contracted for only 45,000 tons. On May 15 he again invited bids, sending proposals to 150 companies, but not only received not a single bid but not even a response to his letters. It was in this emergency that Mr. Pope sought the assistance of the coal operators. His report continues:

"The situation was most alarming, but instead of buying coal on the open market, if it could have been obtained readily at all, and at spot prices at that time running up to \$6.00 per net ton, f. o. b. mines, I placed my predicament before the National Coal Association, an organization of coal mine operators, and that association immediately responded to my appeal and met the government's coal requirements by allotting a certain number of cars to be shipped monthly by the operators in the Georges Creek, Somerset, and Central Pennsylvania coal districts tributary to Washington—the allotment to each operator depending on his mine rating.

"Since May 1, the National Coal Association has given its support and I have obtained coal at a price of \$4.25 per net ton f. o. b. mine until August 16, when the price was increased to approximately \$4.75 per net ton due to the increase in wages granted the day wage mining help. Had not that association lent its co-operation in getting shipments the government fuel yards would have been thrown on the open market for coal with prices running as high as \$12.00 and \$13.00 per net ton according to market quotations. Only last month a department of the government purchased approximately 126,000 tons of eastern bituminous coal in the open market at prices varying from \$6.60 to \$12.00 per net ton, about seventy-five per cent of the tonnage being at a price of \$11.00 per ton. The net result has been that the government fuel yards' requirements have been met and coal obtained at a saving of several dollars per ton."

SAMUEL LORD DIES AT HOME OF HIS SON IN WASHINGTON

Samuel Lord died at the home of his eldest son, James Lord, president of the Mining Department, American Federation of Labor, in Washington, D. C., on November 15, 1920, of miner's asthma, at the age of 71 years 11 months and 14 days.

He and his wife were making their home with their son at the time.

James Lord was in attendance at the American Mining Congress in Denver when the sad news was wired to him, and was thus compelled to forego his address to that body and return east immediately.

Samuel Lord was a pioneer in the trade union movement and at the time of his death was a member of Local Union No. 1213, United Mine Workers of America, at Farmington, Illinois.

He was born in Littleboro, Lancashire, England, in 1849, entered the mine there two months before he was six years of age as a "drawer," as the children who trammed the small cars were called. He came to America in 1881, mined in the Pennsylvania bituminous fields, returned to the old country in 1882, came back again in 1886, and has worked in the Monongahela River district, central Pennsylvania, the Coke Region, the Block Coal Region and in Illinois.

He joined the Miners' Provident and Benefit Society in 1865 at its formation as a full member. This union was the first organized in Lancashire and was under the leadership of Thomas Halliday. It was later broken. He next became identified with "Sandy MacDonald's" organization, and on coming to America joined the Knights of Labor, and later the National Progressive Union and the United Mine Workers of America. He was always an ardent advocate of unionism and had never been a day outside of the union if one existed in the locality in which he worked, and was always a strong believer in the future of the Rochdale Co-operative Movement.

The funeral was in charge of the United Mine Workers and the Knights of Pythias and the burial took place in Oak Ridge Cemetery at Farmington, Illinois, on November 20.

Coal Data Work Simplified.

Arrangements have been made whereby the Bureau of Mines and the Geological Survey will collect data regarding coal mining methods and operations on the same blank which the Geological Survey uses for the collection of annual statistics of coal production. This arrangement will be less convenient for the two bureaus, but decidedly more convenient for the operators.

WESTERN METAL PRODUCTION

Metal production in Montana during 1919, according to advance Geological Survey reports, was as follows: gold, 107,856.32 fine ounces; silver, 12,541,181 fine ounces; copper, 169,981,288 pounds; lead, 34,437,764 pounds; recoverable zinc, 168,763,823; total value, \$62,037,191. The number of operators in 1919 was 457, as compared with 493 in 1918. The total value of output in 1918 was \$121,405,569.

Production in Nevada for 1919 was: gold, 219,695.16 fine ounces; silver, 6,863,580 fine ounces; copper, 52,331,175 pounds; lead, 15,349,370 pounds; recoverable zinc, 9,004,698; total value, \$23,433,171. The total value of output in 1918 was \$48,528,124. The number of operators in 1919 was 421 as compared with 714 in 1918.

Production in Oregon for 1919: gold, 977,845 fine ounces; silver, 111,121 ounces; copper, 2,214,815 pounds; total value \$1,514,255. The total value of output in 1918 was \$1,983,942. The number of producing mines was 78 in 1919, as compared with 120 in 1918.

STATE RESCUE STATIONS FAVORED IN CALIFORNIA

At the annual meeting of the California Metal and Mineral Producers' Association in San Francisco, it was decided after considerable discussion that co-operative stations maintained by groups of mines and by individual mines had not proven satisfactory. Minutes of the meeting show the consensus of opinion was that if mine rescue apparatus is to be required under the order of the Industrial Accident Commission, the best results could be obtained by the installation and operation by the commission of two fully equipped stations. It was decided that details of such a plan should be prepared and submitted to the commission for consideration.

CRAM SUCCEEDS HURREY

Matthew A. Cram of Williamstown, Kentucky, who came to Washington in 1900 to become a clerk in the Bureau of Labor, has been appointed deputy commissioner of internal revenue to succeed C. B. Hurrey. He entered the service of the bureau in January, 1918, as executive secretary to the commissioner. Later he was made business manager of the advisory tax board. He has also served as executive assistant to the head of the technical division, income tax unit. As deputy commissioner he will have charge of the divisions of supplies, stamps, accounts and educational information.

MINE ENGINEER SHORTAGE

Shortage of mining engineers is emphasized by the inability of the Bureau of Mines to secure a competent one with experience in non-metal work for a fairly lucrative position at the Tuscaloosa experiment station. Having failed to secure a man of experience, the bureau is now in the market for one who would be willing to accept a position with the intention of absorbing the fundamentals of non-metals work while gaining experience at the Tuscaloosa station.

GASOLINE STATISTICS

The Bureau of Mines reports that in September there was a daily average production of fifteen million gallons of gasoline, the highest on record. For the first nine months of 1920 refineries manufactured three and one-half billion gallons of gasoline as compared with 2,900,000,000 gallons in 1919. Gasoline in storage September 30 amounted to 298,000,000 gallons or 90,000,000 gallons less than September, 1919. Exports of gasoline for the nine months of 1920 amounted to 200,000,000 gallons more than 1919. Kerosene production for the first nine months of 1920 was 1,680,000,000 gallons, about the same as for 1919, and exports were 623,000,000 gallons or 97,000,000 gallons less than for 1919. Stocks of kerosene on hand September 30 amounted to 379,000,000 gallons or 68,000,000 gallons more than a year ago.

Ruling on Oil Applications.

The Land Office has issued instructions as to procedure in connection with non-mineral applications in conflict with applications for oil prospecting permits. If non-mineral entry is allowed it will be with a reservation of oil or gas to the United States and subject to rights of the permittee or lessee to use the surface necessary in extracting the mineral without compensation to the non-mineral entryman. Applications under non-mineral land laws for lands designated as oil structures will be rejected pending consideration. Homestead entries or other non-mineral filings allowed prior to these instructions which are in conflict with preferred rights under the leasing law will be suspended pending consideration. Non-mineral claimants are entitled to reimbursement for damages to improvements by reason of operations of the permittee or lessee.

PERSONALS

George H. Crosby of Duluth, Minnesota, formerly a director of the American Mining Congress, was in Washington during the month on matters pertaining to claims before the War Minerals Relief Commission. Mr. Crosby has returned to his home in Duluth, where he will remain until early in January, when he will go to Pasadena, California, for the winter.

A. H. Jarman of San Francisco, California, is in Washington for an indefinite stay.

Victor Rakowsky of Joplin, Missouri, was at the Shoreham Hotel several days during the month.

General John T. Barnett of Denver, Colorado, attended the Petroleum Institute convention at the Willard during the month and expects to remain in Washington several weeks.

Harry Vivian, chief engineer of the Calumet and Hecla Mining Company, Calumet, Michigan, has been in Washington several weeks on matters before the Revenue Department for his company.

John J. Lind, formerly governor of Minnesota, more recently United States ambassador to Mexico, was a Washington visitor during the month.

S. P. Netherton of Santa Cruz, California, is in Washington on matters pertaining to his claim before the War Minerals Relief Commission.

George H. Bailey, financial secretary of the American Mining Congress, is at the Hotel Alexandria, Los Angeles, California.

Western Copper Situation.

Great importance is attached by H. A. C. Jenison, the U. S. Geological Survey copper specialist, to the encountering of a large vein of commercial ore at the 3,800-foot level of the main shaft of the Stuart mine in the Butte district. Mr. Jenison has just returned after making geological reconnoissances and economic studies in western copper districts.

INDUSTRIAL NOTES

The Morse Chain Company, Ithaca, N. Y., manufacturers of the Morse "rocker-joint" silent chain, used on automobiles for power transmission, has established a Detroit branch factory, which will be devoted exclusively to the manufacture of silent chain sprockets and the Morse adjustment. The Morse Chain Company will continue to manufacture chains and power transmission at the main plant at Ithaca. The Detroit branch will be under the general management of F. C. Thompson, with F. M. Hawley as chief engineer and C. B. Mitchell as factory manager. Sales and engineering offices are located at the Detroit plant, corner of Eighth and Abbott streets.

C. B. Hurrey, who recently resigned as deputy commissioner of internal revenue, has formed a partnership with Franklin C. Parks and opened offices in the Munsey Building, Washington. The firm will render service to persons and firms desiring advice or assistance in their relations with any branch of the U. S. Government.

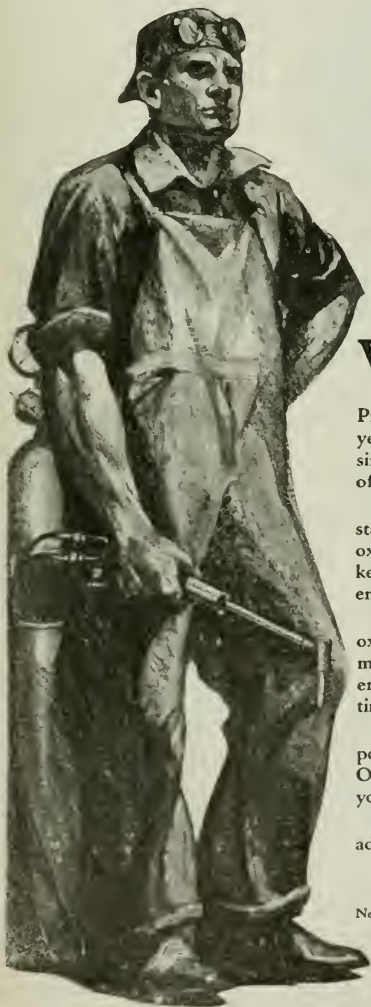
Louis D. Huntoon, of New York, and G. D. Van Arsdale, of Los Angeles, have formed a partnership under the name of Huntoon and Van Arsdale and will specialize as consultants in mining, metallurgy, geology and the hydro-metallurgical treatment of ores. They will maintain laboratory and ore testing facilities.

C. M. Weld, mining engineer; D. M. Liddell, chemical engineer and metallurgist, and P. H. Lazenby, a civil engineer with wide experience in public utilities, have formed a partnership for practice as consulting engineers and economists under the firm name of Weld, Liddell & Lazenby, with offices at 2 Rector Street, New York.

The Sanderson-Cyclone Drill Company, Orrville, Ohio, announces the appointment of W. F. Nothacker as vice president, in charge of their eastern and export office, New York City, and the removal of that office to the Hudson Terminal Buildings, 30 Church Street, Room 436. Telephone, Courtland 7333.

MANGANESE INVESTIGATION

D. F. Hewett, of the Geographical Survey, is examining Virginia fields recently explored for manganese.



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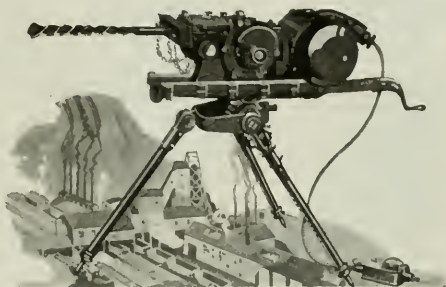
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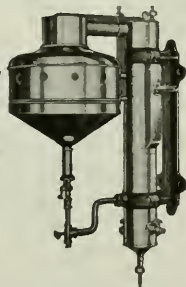
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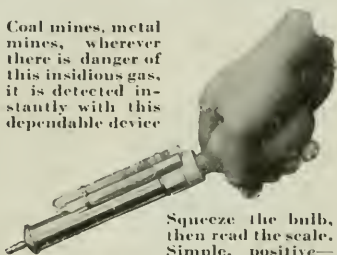
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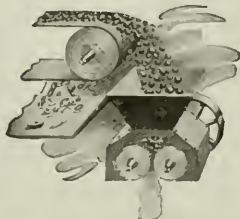
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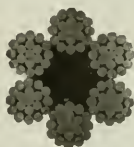
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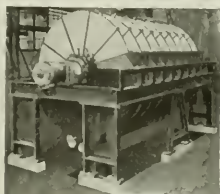
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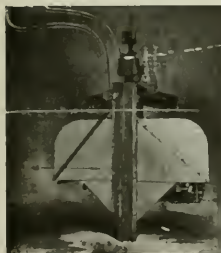
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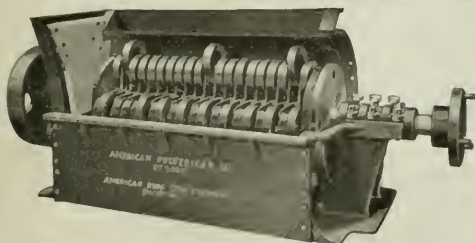
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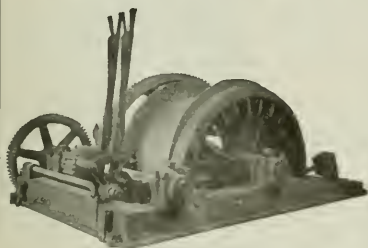
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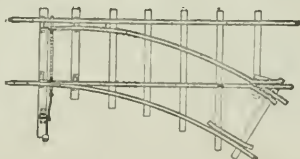
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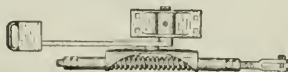
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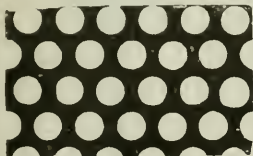
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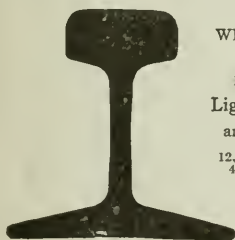
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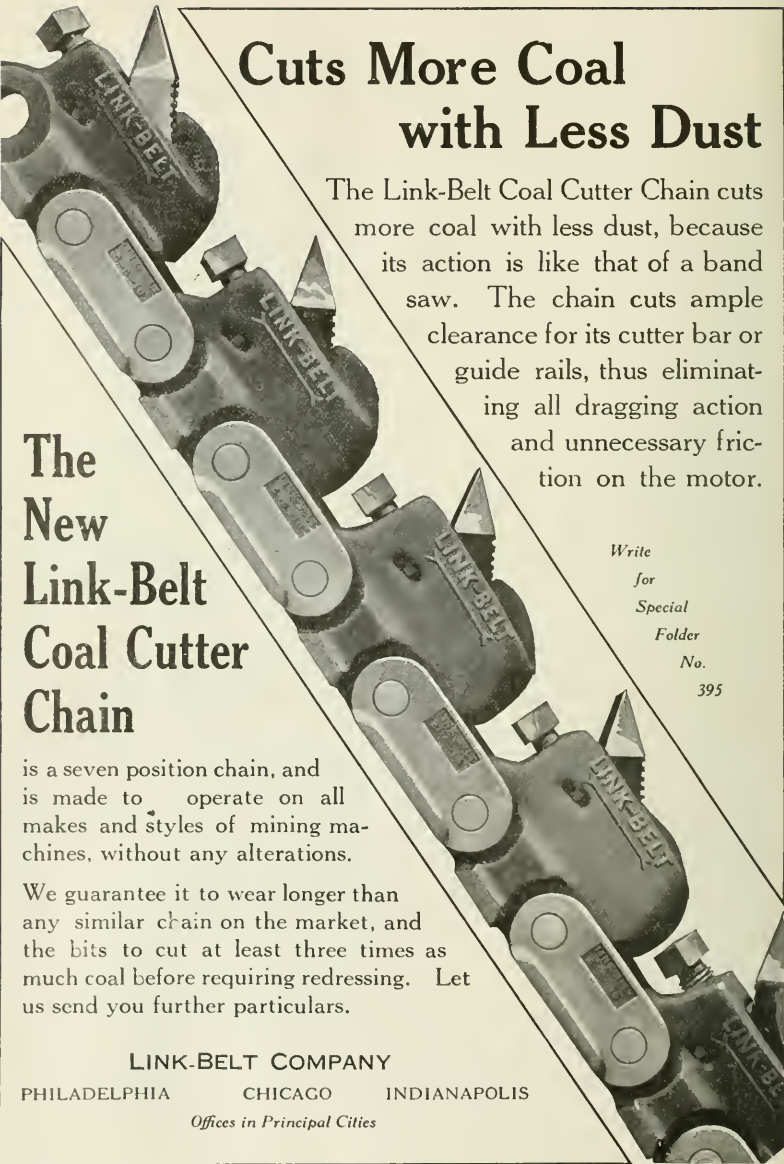
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